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**AFSC 4R0X1/A/B/C**

**DIAGNOSTIC IMAGING**



**CAREER FIELD EDUCATION**

**AND TRAINING PLAN**



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

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**DIAGNOSTIC IMAGING SPECIALTY  
AFSC 4R0X1/A/B/C  
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 everyone will use the plan; Section B identifies career field progression information, duties and responsibilities, training strategies, and career field path; Section C associates each level with specialty qualifications (knowledge, education, training, and other); Section D indicates resource constraints. Some examples are funds, manpower, equipment, 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). These packages are identified in AFIND8, *Numerical Index of Specialized Educational Training Publications*. 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 nationally recognized certification body for ultrasonographers. Certified professionals may use the title "Registered Diagnostic Medical Sonographer" and its abbreviation "R.D.M.S." after their name.

**American Registry of Radiologic Technologists (ARRT).** 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), computerized tomography (CT), magnetic resonance imaging (MR), cardiovascular- interventional technology (CV), and quality management (QM).

**American Society of Radiologic Technologists (ASRT).** 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 1994 giving military radiologic science professionals a voice in the organization and 10 votes 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 for sponsored by the Society of Nuclear Medicine (SNM). Certified nuclear medicine technologists may use the title “Certified Nuclear Medicine Technologist” and its abbreviation “C.N.M.T.” 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.

**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 for an Air Force Specialty that the formal schools teach.

**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 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 (MFM), 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 381st Training Squadron (381 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. Uses.** 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 radiology activities. Ensures health protective measures such as standard precautions and radiation protection measures are established and employed. Assists the radiation oncologist. Manages diagnostic imaging functions and activities. Related Department of Defense (DoD) Occupational Subgroup: 313.

## 4.2. Duties and Responsibilities.

4.2.1. *Operates fixed and portable radiographic equipment to produce routine diagnostic medical images.* Computes techniques and adjusts control panel settings such as kilovoltage, milliamperage, exposure time, 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. 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, oral cholecystograms, 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. 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 radiologic reports, records, and correspondence; receiving patients; using and maintaining equipment; darkroom activities; performing diagnostic imaging examinations; and diagnostic 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.

4.3. **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.

**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 August 1998 at Sheppard AFB. The decision to train specific task and knowledge items is based on JRCERT accreditation requirements, review of OSR data, and 4R0X1 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 registration. 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.) 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.

**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). After completing the first 12 months of the required 18 months of upgrade training (UGT), individuals may attend the 7-level resident course at Sheppard AFB. (Note: Individuals who have previously held a 7-skill level in another career field are eligible to attend the 7-level resident course after only six months of UGT) 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. 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.

**5.4. 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 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 August 1998. 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, which makes graduates eligible to sit for the national certification examination in radiography offered by the ARRT. Continued JRCERT accreditation is based on our 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. Implementation of the Mammography Quality Standards Act of 1992 requires Air Force 4R0X1s who are performing mammography to be certified by the ARRT, or to hold an unrestricted state license from the state in which they practice. 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.

**6.2 4R0X1A Accreditation.** The tri-service 4R0X1A training program, sponsored by the Naval School of Health Sciences (NSHS)-Bethesda, is accredited by the JRCNMT, which 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-Bethesda) and Phase II (conducted at Lackland AFB, TX 78236 and Travis AFB, CA 94535) training courses. Maintaining this accreditation provides a constant source for certified nuclear medicine technologists for the Air Force, which 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 381st Training Squadron (381 TRS), Sheppard AFB TX 76311-2246, and Course J5ABO4R031 (Phase II) conducted at multiple CONUS locations under the guidance of the 381 TRS. The following changes were made in the initial skills/3-skill level course during the 1998 U&TW:

- 6.3.1. Added a requirement to teach career progression in Phase II.
- 6.3.2. Added a requirement to teach Privacy Act and release of patient information in Phase II.
- 6.3.3. Added a new STS subject knowledge item titled “Computerized Radiography.”
- 6.3.4. Deleted a requirement to teach several radiographic equipment quality assurance tests.
- 6.3.5. Added a requirement to teach physics of computed tomography (CT) in Phase II.”
- 6.3.6. Added a requirement to teach basic performance of head CT in Phase II.

**6.4. Five Level Upgrade Requirements.** The 5-skill level CDC column of the STS was revised to add needed material in digital radiography.

**6.5. Seven Level Upgrade Requirements.** The 7-level residence course content was revised to include material on maintaining training records and the use of radiology information systems such as CHCS and Intranet. Also, training on technical and regulatory overviews of all the subspecialty areas of the career field was increased from proficiency code level A to B. **In addition, the attendees of the 1998 U&TW decided to add the Air Force Quality Control Test to the requirements for 7-level upgrade. Therefore, individuals who began Phase I Diagnostic Imaging Apprentice training on or after 15 April 1997 must pass the Air Force Radiology Quality Control Test to be upgraded to the 7-skill level.**



**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 be actively pursuing an associate degree. A degreed faculty is necessary to maintain accreditation through the Southern Association of Colleges and Schools.

**8. Career Field Path.**

**8.1. Manpower Table.**

<b>Table 1. Manpower Authorizations Table. (as of 30 Sep 98)</b>									
	CMSgt	SMSgt	MSgt	TSgt	SSgt	SrA	A1C	Amn	AB
4R0X1	6	7	59	83	182	296	196	0	0
4R0X1A	0	0	8	18	23	17	2	0	0
4R0X1B	0	0	5	16	37	46	10	0	0
4R0X1C	0	0	4	11	16	11	5	0	0
Total	6	7	76	128	258	370	213	0	0

## 8.2. Enlisted Career Path.

<b>Table 2. Enlisted Career Path</b>				
<b>Education and Training Requirements</b>	<b>GRADE REQUIREMENTS</b>			
	Rank	Average Sew-On	Earliest Sew-On	High Year Of Tenure (HYT)
<b>Basic Military Training school</b>	AB			
<b>Apprentice Technical School</b> (3-Skill Level)	Amn A1C	6 months 16 months		
<b>Upgrade To Journeyman</b> (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.	SrA	3 years	28 months	10 Years
<b>Airman Leadership School (ALS)</b> - 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).	<b><u>Trainer</u></b> - Possess the same AFSC as the trainee, and be certified to train others. - Must attend formal OJT Trainer Training and be appointed by Commander.			
<b>Upgrade To Craftsman</b> (7-Skill Level) - Minimum rank of SSgt. - 18 months OJT. (12 months OJT for retrainees possessing a 7-level in a prior AFSC.) - Advanced Technical School (7-level resident course).	SSgt	7.5 years	3 years	20 Years
	<b><u>Certifier</u></b> - 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).			
<b>Noncommissioned Officer Academy</b> (NCOA) - Must be a TSgt or TSgt Selectee. - Resident graduation is a prerequisite for MSgt sew-on (Active Duty Only).	TSgt	12.5 years	5 years	20 Years
	MSgt	16 years	8 years	24 Years
<b>USAF Senior NCO Academy (SNCOA)</b> - 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).	SMSgt	19.2 years	11 years	26 Years
<b>Upgrade To Superintendent</b> (9-Skill Level) - Minimum rank of SMSgt. - Must be a resident graduate of SNCOA (Active Duty Only).	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:**

#### **10.1. Apprentice Level Training:**

##### **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; legal aspects of medicine; radiation physics, biology and protection; basic electronics theory; techniques of operating x-ray and specialized 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; advanced 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 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, or a civilian American Medical Association (AMA) approved course of education in Nuclear Medicine Technology 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 J3ALR4R031B-000, Diagnostic Ultrasound Phase I and J3ALO4R031B-000, Diagnostic Ultrasound Phase II, or current certification by the American Registry of Diagnostic Medical Sonographers, 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 locally determined training requirements based upon the core tasks identified in the STS is required for award of the 3-skill level in the C-shred. Training must include formal lectures by radiologists or physicists, or civilian courses or seminars in MRI technology. [Beginning in FY00, award of the C-shred will require a minimum 12 months OJT, completion of QTP 4R0X1C (currently under development).]

10.1.1.3.4. For personnel assigned duties as radiation therapy technologists, completion of an 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 experience as a diagnostic imaging journeyman, 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 required for retraining into the C-shred. Individuals who are unable to obtain CT training because it is not available at their current duty station may still apply for retraining into the C-shred. If accepted, they will be trained in CT at their MRI training site before entering MRI training.

10.1.1.4.2. 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.** Statutory 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 76311 and course J5ABO4R031-001, Diagnostic Imaging Apprentice Phase II (PDS Code QPN), or

civilian equivalent, 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 anytime 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 lateral training into one of the shreds.

## 10.2. **Journeyman Level Training:**

### 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; legal aspects of medicine; radiobiology, radiation physics and protection; basic electronics theory; techniques of operating x-ray and specialized 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 (or civilian equivalent) and certification of all STS core tasks in column 3C for the assigned duty position are 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. QT 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 Level Training:

##### 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; legal aspects of medicine; radiation physics, biology and protection; basic electronics theory; techniques of operating x-ray and specialized 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 MAJCOM 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 18 months OJT (12 months for retrainees with previous 7-level), and (d) complete 7-skill level resident 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 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 J3ACR4R071 001, Diagnostic Imaging Craftsman (PDS Code 71T) at Sheppard AFB, TX 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 C 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. QT is initiated anytime an individual is assigned duties he/she is not qualified to perform. Completion of the 7-skill level resident course and all its prerequisites is required prior to award of the 7-skill level.

#### 10.4. Superintendent Level Training:

##### 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; legal aspects of medicine; 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 specialized 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. **Education.** Completion of the Senior NCO Academy is mandatory for award of the 9-skill level.

10.4.1.3. **Training.** Completion of duty position training requirements is mandatory for award of the 9-skill level.

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

10.4.2. **Training Sources/Resources.** Upgrade and qualification training are provided by qualified trainers. Requests for qualified trainers should be directed to your base training manager.

10.4.3. **Implementation.** Entry into 9-skill level upgrade training is initiated when an individual possesses the 7-skill level and is a SMSgt selectee. QT 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 Level Training:**

#### **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. **Constraint.** No 3-level training constraints exist for Diagnostic Ultrasound (B-shred)

#### **12.4. Magnetic Resonance Imaging (C-shred):**

12.4.1. **Constraint:** 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. 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: Since there is no formal course, no training days are required.

12.4.3.2. Training Facilities and Equipment: All medical centers providing this training will use existing MRI equipment to conduct the clinical portion of the training. No classroom space will be needed. An appropriate technical reference library will need to be established at each training site that will include, at a minimum, *Living Anatomy*, and *MRI for Technologists*. Enough copies of these references should be on hand for preceptor(s) and students.

12.4.3.3. Manpower/Personnel: One preceptor must be identified to oversee the course at each selected site from among its MR qualified personnel. This preceptor will conduct/arrange for the didactic training, oversee the clinical training, and provide student administration. The preceptor must hold AFSC 4R051C or higher, and should have a minimum of 3 years experience performing MRI examinations.

**12.4.4. Action Required:**

12.4.4.1. Develop a QTP based upon the STS content shown in Part II of this CFETP. OPR: 381 TRS/XWBA. Target completion date: 30 Sep 99.

**13. Journeyman Level Training:**

**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. **Constraint.** No 5-level training constraints exist for Diagnostic Ultrasound.

**13.4. Magnetic Resonance Imaging (C-shred):**

13.4.1. **Constraint:** No 5-level training constraints exist for MRI.

**14. Seven-Level Training:**

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

CHARLES H. ROADMAN II  
Lieutenant General, USAF, MC  
Surgeon General

## Part II

### ***Section A - Specialty Training Standard***

**1. Implementation.** This STS will be used for technical training provided by AETC for classes beginning 990104 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: Tng Comp, Certifier 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 certify completion of training. Identify duty position requirements by circling the subparagraph number next to the task statement. As a minimum, complete the following columns in Part 2 of the CFETP: Training Completed, Trainee Initials, Trainer Initials, Certifier Initials (if applicable). An AFJQS may be used in lieu of Part II of the CFETP only upon approval of the AFCFM. **NOTE:** The AFCFM may supplement these minimum documentation procedures as needed or deemed necessary for their Career Field.

2.5.1.1. **Converting from old CFETP to new CFETP.** Use the new CFETP to identify and certify all past and current qualifications. For those tasks previously certified and required in the current duty position, evaluate current qualifications and, when verified, recertify using current date as completion date and have trainee and certifier initial in the appropriate

columns. For previous certification on tasks not required in the current duty position, carry forward *only* the previous completion dates. If and when these tasks become a duty position requirement, recertify with current date and trainee and certifier initials.

**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 task certifier, and receives certification on the STS. **NOTE:** Career Knowledge must be documented prior to submitting a CDC waiver.

**2.5.1.3. Decertification and 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 are entered on the AF Form 623A, **On-The-Job Training Record Continuation Sheet**, as to the reason for decertification. The individual is recertified (if required) either by erasing the old entries and writing in the new or by using correction fluid (if the entries were made in ink) over the previously certified entry.

**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 war time skills. In addition, shred personnel must be recertified annually on all core tasks identified in the basic AFSC specialty training standard (STS).

2.6. 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.** Report unsatisfactory performance of individual course graduates to 882 TRG/TGE 939 Missile Rd Sheppard AFB, TX 76311-2245. Reference specific STS paragraphs.

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>N/I</i>	<i>N/I</i>	
<i>N/I</i>	<i>N/I</i>	
<i>N/I</i>	<i>N/I</i>	
<i>N/I</i>	<i>N/I</i>	
<i>N/I</i>	<i>N/I</i>	
<i>N/I</i>	<i>N/I</i>	
<i>N/I</i>	<i>N/I</i>	
<i>N/I</i>	<i>N/I</i>	

### QUALITATIVE REQUIREMENTS

Proficiency Code Key		
	Scale Value	Definition: The individual
<b>Task Performance Levels</b>	<b>1</b>	Can do simple parts of the task. Needs to be told or shown how to do most of the task. ( <b>Extremely Limited</b> )
	<b>2</b>	Can do most parts of the task. Needs help only on hardest parts. ( <b>Partially Proficient</b> )
	<b>3</b>	Can do all parts of the task. Needs only a spot check of completed work. ( <b>Competent</b> )
	<b>4</b>	Can do the complete task quickly and accurately. Can tell or show others how to do the task. ( <b>Highly Proficient</b> )
<b>*Task Knowledge Levels</b>	<b>a</b>	Can name parts, tools, and simple facts about the task. ( <b>Nomenclature</b> )
	<b>b</b>	Can determine step by step procedures for doing the task. ( <b>Procedures</b> )
	<b>c</b>	Can identify why and when the task must be done and why each step is needed. ( <b>Operating Principles</b> )
	<b>d</b>	Can predict, isolate, and resolve problems about the task. ( <b>Advanced Theory</b> )
<b>**Subject Knowledge Levels</b>	<b>A</b>	Can identify basic facts and terms about the subject. ( <b>Facts</b> )
	<b>B</b>	Can identify relationship of basic facts and state general principles about the subject. ( <b>Principles</b> )
	<b>C</b>	Can analyze facts and principles and draw conclusions about the subject. ( <b>Analysis</b> )
	<b>D</b>	Can evaluate conditions and make proper decisions about the subject. ( <b>Evaluation</b> )
<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><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. Radiology 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
- (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 TRs to identify current references pending STS revision.

NOTE 3: TRs shown in the source summary (p 68) 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 in column 3E marked 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 - 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 CDC	D 7-Skill Level Course	E War Time CrS
<b>1 CAREER LADDER PROGRESSION</b>											
1a USAF Medical Service TR: AFPD 44-1											
1a(1) Mission							A	-	-	-	-
1a(2) Organization							A	-	-	-	-
1a(3) Function							A	-	-	-	-
1b The airman career ladder and educational opportunities TR: CFETP 4R0X1, AFIs 36-2304, 36-2306; AFMAN 36-2108; AFVA 39-1							A	-	-	C	-
1c Progression in career ladder 4R0X1 TR: CFETP 4R0X1; AFI 36-2101; AFMAN 36-2108							A	B	-	C	-
1d Duties of AFSCs 4R031/51/71 TR: AFMAN 36-2108							A	-	-	C	-
<b>2 SPECIFIC OPERATIONS SECURITY (OPSEC) VULNERABILITIES OF AFSC 4R0X1</b> TR: AFI 10-1101							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	B 3-Skill Level Course	C 5-Skill Level CDC	D 7-Skill Level Course
<b>3</b>	<b>MEDICAL READINESS</b> (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.)										
<b>4</b>	<b>AF OCCUPATIONAL SAFETY AND HEALTH (AFOSH) PROGRAM</b> 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</u> (Ch 32); <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol 1, Ch 2)										
* 4c(1)	Fixed radiographic equipment	_____	_____	_____	_____	_____	2b	3c	-	-	2b
* 4c(2)	Portable radiographic equipment	_____	_____	_____	_____	_____	2b	3c	-	-	2b
4d	Radiology environmental management issues						-	-	A	B	-
<b>5</b>	<b>SUPERVISION OF MILITARY AND NON-MILITARY PERSONNEL</b>										
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	-

- 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	B 3-Skill Level Course	C 5-Skill Level CDC	D 7-Skill Level Course
5e	Establish work methods and performance standards (OIs, policies, protocols, etc.) TR: AFPAM 35-2241V1; AFIs 41-120, 44-135, 46-102								a	c	
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	
<b>6</b>	<b>TRAINING</b> TR: AFI 36-2201; AFM 50-62										
6a	Evaluate personnel to determine need for training									c	
6b	Recommend personnel for training TR: AFI 36-2101; AFMAN 36-2108; AFCAT 36-2223; CFETP 4R0X1									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										

- 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	B 3-Skill Level Course	C 5-Skill Level CDC	D 7-Skill Level Course
6d	Maintain training records						-	-	-	C	-
6e	Evaluate effectiveness of training programs						-	-	-	-	-
<b>7</b>	<b>RADIOLOGIC SERVICE SUPPLY REQUIREMENTS</b> TR: AFMs 67-1 (Vol V, Ch 1, 4, 10, 11, 12, and 16); Federal Supply Catalog Class 6525 Identification List and Management List										
7a	Supply procedures to include classification and identification						-	-	A	B	-
7b	Locate information in indexes						-	-	-	b	-
7c	Locate information in supply catalogs						-	-	-	b	-
7d	Prepare issue and turn-in documents TR: AFIs 41-120, 44-135, 46-102						-	-	-	-	-
7e	Property accountability and responsibility TR: AFM 67-1 (Vol V, Ch 1)						A	-	A	B	-
7f	Report of survey system TR: AFI 23-220						A	-	B	-	-
7g	Budgeting procedures TR: AFI 65-601V1; AFP 172-4						-	-	-	B	-
7h	Precious metals recovery program TR: AFM 23-110 (Vol VI, Ch 4)						-	-	A	B	-
<b>8</b>	<b>PROFESSIONALISM AND PATIENT RELATIONSHIPS</b> 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	-
8b	Professional relations with patients and medical personnel						A	B	-	C	-
8c	Privacy act and release of patient information TR: AFI 37-132						A	B	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	B 3-Skill Level Course	C 5-Skill Level CDC	D 7-Skill Level Course	E War Time Crs
<b>9</b>	<b>PERFORMS IMAGE LIBRARY FUNCTIONS</b> TR: AFIs 37-138, 37-160 Vol 1, 41-120, 44-135, 46-102											
* 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	-		-
9g	Performs film transfer procedures						-	-	b	-		-
9h	Performs maintenance and disposition of											
* 9h(1)	Radiographic film files						b	3c	c	-		b
9h(2)	Mammography image files						-	-	b	-		-
9h(3)	Occupational/asbestos image files						-	-	b	-		-
9h(4)	Final type image files						b	-	c	-		-
9h(5)	Sensitive (medical-legal) image files						-	-	b	-		-
9h(6)	Teaching image files						-	-	b	-		-
9h(7)	Radiography reports						b	2b	-	-		b
9h(8)	Electronic image storage media						-	-	-	-		-
9i	Performs digitization of films						-	-	-	-		-
<b>10</b>	<b>RADIOLOGIC SERVICE ADMINISTRATION</b> TR: AFIs 37-138; 37-160, Vol 1, 41-120, 44-135, 46-102											
* 10a	Process radiographic requests						b	2b	-	-		b
10b	Prepare radiologic correspondence TR: AFMAN 37-126; AFH 37-137						-	-	-	-		-

- 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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* 10c	Maintain nominal index files (Manual or computerized)	_____	_____	_____	_____	_____	b	3c	-	-	b
10d	Maintain correspondence files	_____	_____	_____	_____	_____	-	-	-	-	-
10e	Accreditation requirements						-	-	-	B	-
10f	Management reports						-	-	-	B	-
10g	Process improvement in radiology						-	-	-	B	-
10h	Radiology information systems										
10h(1)	Intranet						-	-	-	A	-
10h(2)	Internet						-	-	-	A	-
10h(3)	CHCS						-	-	-	A	-
10h(4)	Local Area Network (LAN)						-	-	-	A	-
10h(5)	Systems Administration						-	-	-	A	-
10h(6)	Terminal Area Security Officer duties						-	-	-	A	-
10i	Facilities management						-	-	-	B	-
<b>11</b>	<b>TECHNICAL FUNDAMENTALS OF RADIOLOGY</b>										
	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	-	-	3c

- 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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* 11i	Prepares solution for film processing	_____	_____	_____	_____	_____		b	-	c	-	b
11j	Operates dry chemical processors	_____	_____	_____	_____	_____		-	-	-	-	-
11k	Perform film reproduction	_____	_____	_____	_____	_____		1a	2b	c	-	-
11l	Film printing (lasers, multi-format, etc.)	_____	_____	_____	_____	_____		-	-	-	-	-
11m	Computerized radiography	_____	_____	_____	_____	_____		A	-	B	-	-
<b>12</b>	<b>RADIOGRAPHIC EQUIPMENT QUALITY CONTROL</b>											
	TR: <u>Quality Management in the Imaging Sciences;</u> <u>The Basics of Film Processing in Medical Imaging</u>											
12a	Perform quality control checks on											
12a(1)	Radiographic imaging systems											
12a(1)(a)	kVp checks	_____	_____	_____	_____	_____		-	-	a	-	-
12a(1)(b)	mA/time checks	_____	_____	_____	_____	_____		-	-	a	-	-
12a(1)(c)	Beam alignment/field alignment checks	_____	_____	_____	_____	_____		-	-	a	-	-
12a(1)(d)	Focal spot size checks	_____	_____	_____	_____	_____		-	-	a	-	-
12a(2)	Radiographic processors											
* 12a(2)(a)	Sensitometry film checks	_____	_____	_____	_____	_____		a	2b	c	-	-
12a(2)(b)	Replenishment rate checks	_____	_____	_____	_____	_____		a	2b	b	-	-
12a(2)(c)	Temperature checks	_____	_____	_____	_____	_____		a	2b	b	-	-
12a(2)(d)	Silver recovery units checks	_____	_____	_____	_____	_____		-	-	-	-	-
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	-	-	-

- 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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12b	Perform preventive maintenance on										
12b(1)	Processors										
* 12b(1)(a)	Film transport system	_____	_____	_____	_____	_____	2b	3c	c	-	2b
* 12b(1)(b)	Circulation system	_____	_____	_____	_____	_____	2b	3c	c	-	2b
* 12b(1)(c)	Replenishment system	_____	_____	_____	_____	_____	2b	3c	c	-	2b
* 12b(2)	Clean intensifying screens	_____	_____	_____	_____	_____	2b	3b	c	-	2b
13	<b>ANATOMY AND PHYSIOLOGY</b> TR: <u>Gray's Anatomy</u>										
13a	Organization of the body						A	B	B	-	A
13b	Structure and function of body systems										
13b(1)	Osteology						A	B	B	-	A
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>Living Anatomy</u>						-	-	B	-	-
14	<b>ROUTINE CLINICAL RADIOGRAPHY</b> TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol 1,Ch 4-10; Vol 2,Ch 20-23)										



- 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	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	2c	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
14a(13)	Mastoids and petrous pyramids						2b	-	c	-		-
* 14b	Perform image quality control						1a	2b	c	-		1a
14c	Image artifacts						A	B	B	-		A
<b>15 SPECIAL CLINICAL RADIOGRAPHY</b>												
15a	Signs and symptoms of reactions to contrast media TR: <u>Basic Medical Techniques and Patient Care for Radiologic Technologists</u>						A	B	C	-		A
15b	Patient preparation and instructions TR: <u>Basic Medical Techniques and Patient Care for Radiologic Technologists</u>						A	B	-	-		A
15c	Operate equipment and assist in performing											

- 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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* 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)	Portable radiography TR: Local Operator's Manual	_____	_____	_____	_____	_____		b	2c	c	-	1b
15c(9)	Portable fluoroscopy TR: Local Operator's Manual	_____	_____	_____	_____	_____		a	2b	b	-	1b
15c(10)	Myelography TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol 2, Ch 25)	_____	_____	_____	_____	_____		-	-	b	-	-
15c(11)	Venography TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol 2, Ch 26)	_____	_____	_____	_____	_____		-	-	b	-	-
<b>16</b>	<b>PATIENT CARE</b> TR: <u>Patient Care in Radiography</u>											
16a	Nursing techniques											

- 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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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	-	2b
16a(6)	IV precautions							-	A	-	-	A
16a(7)	Monitors patients during diagnostic exams							b	c	c	-	-
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
<b>17</b>	<b>INFECTION CONTROL</b> 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
<b>18</b>	<b>TECHNICAL AND REGULATORY OVERVIEW OF SUBSPECIALTIES</b>											
18a	Nuclear medicine (shred A)							-	-	-	B	-
18b	Ultrasound (shred B)							-	-	-	B	-
18c	Magnetic resonance imaging (shred C)							-	-	-	B	-
18d	Computed tomography (SEI 478)							-	-	-	B	-
18e	Cardiovascular and interventional procedures (SEI 479)							-	-	-	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	B 3-Skill Level Course	C 5-Skill Level CDC	D 7-Skill Level Course
18f	Mammography									B	
<b>19</b>	<b>COMPUTED TOMOGRAPHY PROCEDURES</b>										
	TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures (Vol 3, Ch 33); 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										
19a(4)	Patient safety										
19b	Physics of CT										
19b(1)	Image formation							A	A		
19b(2)	Data acquisition							A	A		
19b(3)	Data measurement							A	A		
19b(4)	Data processing							A	A		
19b(5)	Resolution							A	A		
19c	Components of a CT scanner										
19c(1)	Imaging system							A	A		
19c(2)	Computer system							A	A		
19c(3)	Image display							A	A		
19c(4)	Image storage and recording							A	A		
19c(5)	CT control console							A	A		
19d	Cross sectional anatomy										
19d(1)	Head							A			

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19d(2)	Neck						-	-	-	-	-
19d(3)	Chest						-	-	-	-	-
19d(4)	Abdomen						-	-	-	-	-
19d(5)	Pelvis						-	-	-	-	-
19d(6)	Spine						-	-	-	-	-
19d(7)	Extremities						-	-	-	-	-
19e	Disease entities										
19e(1)	Pathology						-	-	-	-	-
19e(2)	Differential diagnosis						-	-	-	-	-
19e(3)	Common abnormalities demonstrated by CT						-	-	A	-	-
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						-	-	-	-	-
19g(1)(c)	Orbits						-	-	-	-	-
19g(1)(d)	Sella turcica						-	-	-	-	-

- 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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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										
19g(2)	Body										
19g(2)(a)	Abdomen										
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										

- 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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19h(4)	Abscess drainage										
19i	Filming procedures										
19i(1)	Setting windows/levels								a		
19i(2)	Image format								a		
19i(3)	Measuring								a		
19i(4)	ROI								a		
19j	Reconstruction of images										
19k	Reformation of images										
19l	CT contrast agents										
19l(1)	Types of contrast								A		
19l(2)	Reactions to contrast agents										
19l(3)	Crash cart familiarization										
19l(4)	Operate power injectors								a		
19l(4)(a)	Set injection delays								a		
19l(4)(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										

- 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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19p	Patient scheduling	_____	_____	_____	_____	_____	-	-	-	-	-
19q	Pediatric care	_____	_____	_____	_____	_____	-	-	-	-	-
<b>20</b>	<b>CARDIOVASCULAR AND INTERVENTIONAL PROCEDURES</b> TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol 2, 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	-	-
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	_____	_____	_____	_____	_____	-	-	-	-	-



- 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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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										
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										

- 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(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										
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						-	-	-	-	-

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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										
20e(6)	Embolotherapy										
20e(7)	Venous filter procedures										
20e(8)	Biliary interventions										
20e(9)	Genitourinary interventions										
20e(10)	Needle biopsy procedures										
20e(11)	Percutaneous abcess drainage										

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20e(12)	Percutaneous gastrostomy	_____	_____	_____	_____	_____	-	-	-	-	-
20e(13)	Percutaneous nephrostomy	_____	_____	_____	_____	_____	-	-	-	-	-
20e(14)	Foreign body retrieval	_____	_____	_____	_____	_____	-	-	-	-	-
20e(15)	Vascular pressure measurements	_____	_____	_____	_____	_____	-	-	-	-	-
<b>21</b>	<b>MAMMOGRAPHY PROCEDURES</b> TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures (Vol 2, Ch 24); ACR Radiologic Technologists Manual</u>										
21a	Perform routine mammography										
21a(1)	Craniocaudad (CC)	_____	_____	_____	_____	_____	-	-	b	-	-
21a(2)	Mediolateral oblique (MLO)	_____	_____	_____	_____	_____	-	-	b	-	-
21b	Perform special mammography										
21b(1)	Spot compression	_____	_____	_____	_____	_____	-	-	-	-	-
21b(2)	Magnification	_____	_____	_____	_____	_____	-	-	b	-	-
21b(3)	Exaggerated craniocaudad	_____	_____	_____	_____	_____	-	-	-	-	-
21b(4)	Cleavage	_____	_____	_____	_____	_____	-	-	-	-	-
21b(5)	Axillary tail	_____	_____	_____	_____	_____	-	-	b	-	-
21b(6)	Tangential	_____	_____	_____	_____	_____	-	-	-	-	-
21b(7)	Rolled view	_____	_____	_____	_____	_____	-	-	-	-	-
21b(8)	Augmented breast (implants)	_____	_____	_____	_____	_____	-	-	-	-	-
21b(9)	90-degree lateral	_____	_____	_____	_____	_____	-	-	-	-	-
21b(10)	Lateromedial (LM)	_____	_____	_____	_____	_____	-	-	-	-	-
21b(11)	Lateral medial oblique (LMO)	_____	_____	_____	_____	_____	-	-	-	-	-
21b(12)	Caudocranial (reverse CC)	_____	_____	_____	_____	_____	-	-	-	-	-
21b(13)	Superolateral to inferomedial oblique	_____	_____	_____	_____	_____	-	-	-	-	-

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21b(14)	Post-mastectomy											
21c	Assist in performing special mammographic procedures											
21c(1)	Stereotactic biopsy								a			
21c(2)	Needle localization								a			
21c(3)	Aseptic techniques/sterile procedures											
21c(4)	Breast ultrasound											
21d	ACR guidelines, accreditation standards, and quality assurance											
21d(1)	Technologist and radiologist continuing education requirements											
21d(2)	Frequency of tests											
21d(3)	Types of tests											
21d(3)(a)	Screen-film contact/cassette test											
21d(3)(b)	Compression test											
21d(3)(c)	Phantom test											
21d(3)(d)	Viewboxes											
21d(3)(e)	Sensitometry test											
21d(3)(f)	Repeat analysis											
21d(3)(g)	Processor cleanliness											
21d(3)(h)	Visual checklist (mammography unit)											
21d(3)(i)	Fixer retention analysis											
21d(3)(j)	Darkroom fog test											
21d(3)(k)	Screen cleanliness											
21d(3)(l)	Darkroom cleanliness											



- 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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<b>22 NUCLEAR MEDICINE (A shred)</b> TR: <u>Nuclear Medicine Technology and Techniques; Introductory Physics of Nuclear Medicine; Nuclear Medicine; Principles and Practices of Nuclear Medicine; Essentials of Nuclear Medicine Imaging; Practical Nuclear Medicine</u>										
22a Perform diagnostic imaging										
22a(1) Bone										
* 22a(1)(a) Three phase	_____	_____	_____	_____	_____		a	3b	-	-
* 22a(1)(b) Whole Body	_____	_____	_____	_____	_____		a	3b	-	-
* 22a(1)(c) Static Images	_____	_____	_____	_____	_____		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)(a)3 Perchlorate washout test	_____	_____	_____	_____	_____		a	-	-	-
22a(2)(a)4 Suppression Test	_____	_____	_____	_____	_____		a	-	-	-
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 Perfusion	_____	_____	_____	_____	_____		a	-	-	-
22a(3)(a)2 Function	_____	_____	_____	_____	_____		a	2b	-	-
22a(3)(a)3 Brain Death	_____	_____	_____	_____	_____		a	-	-	-
22a(3)(a)4 Shunt Evaluation	_____	_____	_____	_____	_____		a	-	-	-

- STS 4ROXIA - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES			
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22a(3)(b)	Cisternogram							a	-	-	-
22a(4)	Pulmonary										
22a(4)(a)	Perfusion Imaging										
* 22a(4)(a)1	Pulmonary Embolism							a	3b	-	-
22a(4)(a)2	Split Function							a	3b	-	-
22a(4)(b)	Ventilation Imaging										
* 22a(4)(b)1	Xenon-133							a	3b	-	-
* 22a(4)(b)2	DTPA Aerosol							a	b	-	-
22a(5)	Gastrointestinal and Hepatobiliary Imaging										
22a(5)(a)	Liver/Spleen Imaging										
* 22a(5)(a)1	Tagged Red Blood Cells							a	3b	-	-
* 22a(5)(a)2	Sulfur/Albumin Colloid							a	3b	-	-
22a(5)(a)3	Bone Marrow Imaging							a	3b	-	-
* 22a(5)(b)	Hepatobiliary							a	3b	-	-
22a(5)(c)	Gastroesophageal										
* 22a(5)(c)1	Gastric Emptying							a	3b	-	-
22a(5)(c)2	Esophageal Transit							a	3b	-	-
22a(5)(c)3	Gastroesophageal Reflux							a	3b	-	-
22a(5)(d)	GI Bleeding										
* 22a(5)(d)1	Sulfur Colloid							a	2b	-	-
* 22a(5)(d)2	Tagged Red Blood Cells							a	3b	-	-
* 22a(5)(e)	Meckels Diverticulum							a	2b	-	-
22a(6)	Tumor/Infection Imaging										
22a(6)(a)	Tumor Avid Imaging										



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* 22a(6)(a)1	Gallium 67						a	2b	-	-
22a(6)(a)2	Iodine-131 MIBG						a	-	-	-
22a(6)(a)3	Indium-111 Monoclonal Antibodies						a	2b	-	-
22a(6)(b)	Infection Imaging									
* 22a(6)(b)1	Gallium 67						a	3b	-	-
* 22a(6)(b)2	Labeled White Blood Cells						a	b	-	-
22a(7)	Renal/Genitourinary Imaging									
22a(7)(a)	Functional Imaging									
* 22a(7)(a)1	Renogram						a	2b	-	-
22a(7)(a)2	Glomerular Filtration Rate						a	2b	-	-
22a(7)(a)3	Effective Renal Plasma Flow						a	b	-	-
22a(7)(a)4	Interventional Renography						a	b	-	-
22a(7)(b)	Renal Perfusion Imaging									
* 22a(7)(b)1	Transplants						a	2b	-	-
22a(7)(b)2	Renal Cortical Imaging						a	2b	-	-
* 22a(7)(c)	Voiding Cysto-Urethra Gram						a	2b	-	-
* 22a(7)(d)	Testicular Imaging						a	2b	-	-
22a(8)	Cardiac Imaging									
22a(8)(a)	Myocardial Perfusion Imaging									
* 22a(8)(a)1	Thallium Perfusion Imaging						a	3b	-	-
* 22a(8)(a)2	Technetium Perfusion Imaging						a	3b	-	-
* 22a(8)(a)3	Pharmacological Stress Protocols						a	3c	-	-
22a(8)(b)	Infarct Avid Imaging						a	a	-	-
22a(8)(c)	Gated Blood Pool Imaging									

- STS 4ROXIA - 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	B 3-Skill Level Course (Phase I)	C 3-Skill Level Course (Phase II)	D 7-Skill Level Course
* 22a(8)(c)1	Resting Multiple Gated Acquisition	_____	_____	_____	_____	_____	a	2b	-	-
22a(8)(c)2	Stress Multiple Gated Acquisition	_____	_____	_____	_____	_____	a	2b	-	-
* 22a(8)(c)3	Ejection Fraction	_____	_____	_____	_____	_____	a	2b	-	-
22a(8)(d)	Radionuclide Ventriculography									
* 22a(8)(d)1	First Pass	_____	_____	_____	_____	_____	a	1a	-	-
22a(8)(d)2	Left to Right Shunt	_____	_____	_____	_____	_____	a	1a	-	-
22a(8)(d)3	Right to Left Shunt	_____	_____	_____	_____	_____	a	1a	-	-
22a(9)	Single Photon Emission Computed Tomography Imaging Procedures TR: <u>SPECT, Single Photon Computed Tomography, A Primer.</u>									
* 22a(9)(a)	Cardiac	_____	_____	_____	_____	_____	a	2b	-	-
22a(9)(b)	Gated perfusion	_____	_____	_____	_____	_____	a	2b	-	-
* 22a(9)(c)	Bone	_____	_____	_____	_____	_____	a	2b	-	-
* 22a(9)(d)	Abdominal	_____	_____	_____	_____	_____	a	2b	-	-
* 22a(9)(e)	Thoracic	_____	_____	_____	_____	_____	a	2b	-	-
22a(9)(f)	Brain	_____	_____	_____	_____	_____	a	2b	-	-
22b	Non Imaging Nuclear Laboratory Procedures									
22b(1)	Perform Schilling's Test									
22b(1)(a)	Standard	_____	_____	_____	_____	_____	a	2b	-	-
22b(1)(a)1	Stage 1	_____	_____	_____	_____	_____	a	2b	-	-
22b(1)(a)2	Stage 2	_____	_____	_____	_____	_____	a	2b	-	-
22b(1)(b)	Stage 3	_____	_____	_____	_____	_____	a	2b	-	-
22b(1)(c)	DICOPAC	_____	_____	_____	_____	_____	a	2b	-	-
22b(2)	In Vitro Procedures									

- STS 4ROXIA - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES			
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22b(2)(a)	Red Cell Volume	_____	_____	_____	_____	_____		a	b	-	-
22b(2)(b)	Plasma Volume	_____	_____	_____	_____	_____		a	b	-	-
22b(2)(c)	Whole Blood Volume	_____	_____	_____	_____	_____		a	b	-	-
22b(2)(d)	Red Cell Survival	_____	_____	_____	_____	_____		a	b	-	-
22b(2)(e)	Red Cell Sequestration	_____	_____	_____	_____	_____		a	b	-	-
22b(3)	Perform therapy procedures										
22b(3)(a)	Phosphorus-32 Therapy	_____	_____	_____	_____	_____		a	b	-	-
22b(3)(b)	Strontium-89 Palliative Therapy	_____	_____	_____	_____	_____		a	b	-	-
* 22b(3)(c)	Iodine-131 Therapy for Graves Disease or Hyperthyroidism	_____	_____	_____	_____	_____		a	2b	-	-
* 22b(3)(c)1	Patient instructions	_____	_____	_____	_____	_____		a	2b	-	-
* 22b(3)(c)2	Staff Instructions	_____	_____	_____	_____	_____		a	2b	-	-
22b(3)(d)	Perform Iodine-131 Ablation Therapy										
* 22b(3)(d)1	Room location and preparation	_____	_____	_____	_____	_____		a	2b	-	-
* 22b(3)(d)2	Patient instructions	_____	_____	_____	_____	_____		a	2b	-	-
* 22b(3)(d)3	Staff instructions	_____	_____	_____	_____	_____		a	2b	-	-
* 22b(3)(d)4	Patient release levels	_____	_____	_____	_____	_____		a	2b	-	-
* 22b(3)(d)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	-	-

- STS 4ROXIA - 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	B 3-Skill Level Course (Phase I)	C 3-Skill Level Course (Phase II)	D 7-Skill Level Course
* 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	-	-
* 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	-	-

- STS 4ROXIA - 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(8)(e)	Shielding							a	3c	-	-
* 22c(9)	Phlebotomy Techniques										
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	-	-
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							-	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	-	-

- STS 4ROXIA - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES			
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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									
22e(1)(a)	Calibrate and Record Optimum Operating Voltage	_____	_____	_____	_____	_____	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)	Uptake Probe									
22e(2)(a)	Calibrate and Record Optimum Operating Voltage	_____	_____	_____	_____	_____	2b	3b	-	-
22e(2)(b)	Measure Sensitivity	_____	_____	_____	_____	_____	2b	3b	-	-
22e(2)(c)	Determine Crystal Resolution	_____	_____	_____	_____	_____	2b	3b	-	-
22e(2)(d)	Chi-Square	_____	_____	_____	_____	_____	2b	3b	-	-

- STS 4ROXIA - 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	B 3-Skill Level Course (Phase I)	C 3-Skill Level Course (Phase II)	D 7-Skill Level Course
22e(2)(e)	Linearity						2b	3b	-	-
22e(3)	Gamma Camera Quality Control									
22e(3)(a)	Acquire Flood Fields									
* 22e(3)(a)1	Intrinsic						a	3c	-	-
* 22e(3)(a)2	Extrinsic						a	3c	-	-
* 22e(3)(b)	Recognize Field Artifacts						a	3c	-	-
* 22e(3)(c)	Sensitivity						a	3c	-	-
* 22e(3)(d)	Uniformity						a	3c	-	-
22e(3)(e)	System Resolution						a	3c	-	-
22e(3)(f)	Calibrate									
22e(3)(f)1	Energy						a	3c	-	-
22e(3)(f)2	Linearity						a	3c	-	-
* 22e(3)(f)3	Isotope Peak, ( Multiple Window)						a	3c	-	-
* 22e(3)(g)	SPECT Quality Assurance						a	3c	-	-
* 22e(3)(h)	Center Of Rotation						a	3c	-	-
22e(3)(i)	SPECT Resolution (Jaszczak)						a	3c	-	-
22e(4)	Dose Calibrator									
* 22e(4)(a)	Constancy						a	3c	-	-
* 22e(4)(b)	Accuracy						a	3c	-	-
* 22e(4)(c)	Geometry						a	3c	-	-
* 22e(4)(d)	Linearity						a	3c	-	-
22h	Nuclear Medicine Computer Applications TR: <u>Computers in Nuclear Medicine...</u>									
22h(1)	Image Acquisition									

- STS 4ROXIA - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES			
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* 22h(1)(a)	Static	_____	_____	_____	_____	_____		a	3c	-	-
* 22h(1)(b)	Dynamic	_____	_____	_____	_____	_____		a	3c	-	-
* 22h(1)(c)	Gated	_____	_____	_____	_____	_____		a	3c	-	-
* 22h(1)(d)	SPECT	_____	_____	_____	_____	_____		a	3c	-	-
22h(1)(e)	SPECT Gated	_____	_____	_____	_____	_____		a	3c	-	-
22h(2)	Perform image Processing										
* 22h(2)(a)	Image Formatting	_____	_____	_____	_____	_____		a	3c	-	-
* 22h(2)(b)	Filter Parameters	_____	_____	_____	_____	_____		a	3c	-	-
* 22h(2)(c)	Region of Interest	_____	_____	_____	_____	_____		a	3c	-	-
* 22h(2)(d)	SPECT Reconstruction	_____	_____	_____	_____	_____		a	3c	-	-
* 22h(2)(e)	Attenuation Correction	_____	_____	_____	_____	_____		a	3c	-	-
22h(2)(f)	Perform Bone Densitometry	_____	_____	_____	_____	_____		-	-	-	-



- STS 4R0X1B - 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 3-Skill Level Course (Phase I)	B 3-Skill Level Course (Phase II)	C 7-Skill Level Course	E War Time Crs
<b>23 ULTRASONOGRAPHY PROCEDURES (B shred)</b>										
23a Principles of Diagnostic Ultrasound TR: <u>Understanding Ultrasound Physics;</u> <u>Essentials of Ultrasound Physics.</u>										
23a(1) Practical physics							B	-	-	B
23a(2) Instrumentation							B	-	-	B
23a(3) Artifacts and Safety							B	-	-	B
23a(4) Doppler physics							B	-	-	
23b Basic Operating Procedures										
* 23b(1) Adjust sonographic instrumentation	_____	_____	_____	_____	_____		2b	3b	-	2b
* 23b(2) Adjust image display	_____	_____	_____	_____	_____		2b	3b	-	2b
* 23b(3) Record ultrasound image	_____	_____	_____	_____	_____		2b	3b	-	2b
23b(4) Patient prep and instructions							B	-	-	B
23c Cross-sectional Anatomy and Physiology TR: <u>Ultrasonography: An Introduction to</u> <u>Normal Structure and Functional Anatomy.</u>										
23c(1) Thorax							-	-	-	-
23c(2) Abdomen							C	-	-	B
23c(3) Pelvis							C	-	-	B
23c(4) Extremities							-	-	-	-
23c(5) Testicular							B	-	-	B
23c(6) Breast							B	-	-	-
23c(7) Thyroid							B	-	-	-
23c(8) Neurosonography							-	-	-	-
23c(9) Vascular							B	-	-	B
23c(10) Obstetrics							C	-	-	-

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

- STS 4ROX1B - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES			
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23d(23)	Abdominal Doppler	_____	_____	_____	_____	_____	_____	_____	_____	_____	
23d(24)	Portable Sonography	_____	_____	_____	_____	_____	_____	2c	_____	2a	
23e	Equipment Quality Assurance						B	_____	_____	A	
23f	Hazardous materials (cidex, wexcide, etc.)						A	_____	_____	A	
23g	Patient relations						A	_____	_____	_____	
23h	Ethics TR: <u>Law and Ethics in Diagnostic Imaging</u>						A	_____	_____	_____	

- 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
<b>24 MAGNETIC RESONANCE IMAGING (C shred)</b> TR: <u>MRI for Technologists; Living Anatomy</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						-	-	-	-	-	-

- 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
24c	Perform MR Pulse Sequences										
* 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						-	-	-	-	-
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						-	-	-	-	-

- 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
24d(10)	Oxygen monitors							-	-	-	-	-
24d(11)	Coils							-	-	-	-	-
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											

- 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
24k(1)	Head										
* 24k(1)(a)	Brain					√	-	-	-	-	-
24k(1)(b)	Internal auditory canals						-	-	-	-	-
24k(1)(c)	Pituitary gland						-	-	-	-	-
* 24k(1)(d)	Orbits					√	-	-	-	-	-
24k(1)(e)	Cranial nerves						-	-	-	-	-
24k(1)(f)	Parotids						-	-	-	-	-
* 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)	Temporomandibular joint					√	-	-	-	-	-
24k(13)	Heart						-	-	-	-	-
24k(14)	Great vessels						-	-	-	-	-
24k(15)	Abdomen						-	-	-	-	-
24k(16)	Chest						-	-	-	-	-
24k(17)	MR mammography						-	-	-	-	-

- 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(18)      Quality Assurance	_____	_____	_____	_____	_____		-	-	-	-	-

**SUMMARY OF REVISED, DELETED, OR ADDED MATERIAL**

This STS was revised to update tasks and proficiency codes for the B-shred awarding course. In addition, the core task list in the A-shred STS has been updated and several tasks have been removed from the STS because of redundancy. Proficiency codes have been removed from the C-shred STS because no formal training course exists for award of the C-shred.



## **BIBLIOGRAPHY AND CROSS-TALK LISTINGS**

### **4R0X1 TRAINING REFERENCES**

#### **COMMERCIAL AND OTHER SERVICE PUBLICATIONS**

- American Heart Association. Health Care Provider's Manual for Basic Life Support. 1988
- Phillip W. Ballanger. Merrill's Atlas of Radiographic Positions and Radiologic Procedures. 3 Vols, 8th ed, Mosby-Year Book, Inc., 1995.
- Donald Bernier, et. al. Nuclear Medicine Technology and Techniques. 2nd ed, CV Mosby, 1989.
- Stewart C. Bushong. Radiologic Science for Technologists. 6th ed, Mosby, 1997.
- Ramesh Chandra. Introductory Physics of Nuclear Medicine. 1st ed, Lea&Febiger, 1992.
- Reva Arnez Curry, et. al. Ultrasonography: An Introduction to Normal Structure and Functional Anatomy. 1st ed, W.B. Saunders Co., 1995.
- Paul J Early, et. al. Principles and Practices of Nuclear Medicine. 1st ed, CV Mosby, 1985.
- Sidney K. Edelman, Ph. D. Understanding Ultrasound Physics. 2nd ed, D. Armstrong Co., Inc., 1994.
- Ruth Ehrlich, et. al. Patient Care in Radiography. 4th ed, Mosby-Year Book Inc., 1993.
- Robert English. SPECT, Single Photon Computed Tomography, A Primer. 2nd ed, Society of Nuclear Medicine, N.Y., 1990.
- Henry Gray. Gray's Anatomy. 38th ed, Churchill Livingstone, 1995.
- Sandra L. Hagen-Ansert. Textbook of Diagnostic Ultrasonography. 2 Vols, 4th ed, Mosby Year Book, Inc., 1995.
- Arthur G. Haus and Susan M. Jaskulski. The Basics of Film Processing in Medical Imaging. Medical Physics Publishing, 1997.
- Lee Kai. Computers in Nuclear Medicine, A Practical Approach. Society of Nuclear Medicine, N.Y., 1991.
- Fred Metler, MD, et. al. Essentials of Nuclear Medicine Imaging. 3rd ed, W.B. Saunders, 1991.
- Novelline and Squire. Living Anatomy. Hanley and Belfus, 1992.
- Ann M. Oberfell. Law and Ethics in Diagnostic Imaging. W.B. Saunders Co., 1995.
- Edwin Palmer, et. al. Practical Nuclear Medicine. WB Saunders, 1992.
- Jeffrey Papp. Quality Management in the Imaging Sciences. Mosby, 1998.

- Gopla Saha. Fundamentals of Nuclear Pharmacy. 3rd ed, Springer-Verlag, 1992.
- Roger C. Sanders. Clinical Sonography: A practical Guide. 2nd ed, Little Brown and Company, 1991.
- Euclid Seeram. Computed Tomography: Physical Principles, Clinical Applications, and Quality Control. WB Saunders, 1994.
- Sheila A. Sorrentino. Mosby's Textbook for Nursing Assistants. 3rd ed, Mosby-Year Book, Inc., 1992.
- Peggy Woodward, et. al. MRI for Technologists. McGraw-Hill, Inc., 1995.
- James A. Zagzebski, Essentials of Ultrasound Physics. Mosby-year Book, Inc., 1996.

## **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 (J3AQR4R031-00), Diagnostic Imaging Apprentices, 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	11b	W
3	Energy and Ohm’s Law	11a	W
4	Introduction to Radiographic Fundamentals I	11c	W
5	Introduction to Radiographic Fundamentals II	11c	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)	W
2	Osteology and Arthrology and the Hand, Wrist, and Forearm	13b(1)	W
3	Introduction to Positioning	14a	W
4	Positioning of the Hand, Fingers, and Thumb	14a(1)	W
5	Positioning of the Wrist and Forearm	14a(1)	W
6	Osteology and Arthrology of the Humerus, Elbow and Shoulder Girdle	13b(1)	W
7	Positioning of the Elbow and Humerus	14a(1)	W
8	Positioning of the Shoulder Girdle	14b(2)	W
9	X-ray Tube Angulation	11c	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	11c	W
2	Power Production	11a	W
3	Rectification	11a	W
4	Electrical Hazards and Protection	4a	W
5	Intensifying Screens	11g	W
6	Radiographic Film	11g	W
7	Film Processing Chemistry	11h	PC/W
8	Methods and Principles of Film Processing	11h	PC/W
9	Processor Maintenance	12b(1)	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	W
2	Tube Rating Charts	11e	W
3	Meters, Timers, and Controlling Components	11a	W
4	Interaction	11b	W
5	Detection, Measurement, and Shielding	11b	W
6	Radiobiology	11d	W
7	Administrative Procedures	10	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	W
2	Filtration and Methods of Controlling Secondary and Scatter Radiation II	11f	W
3	Factors Affecting Image Quality	11c	W
4	Exposure Factors and Effects on Radiographic Imaging	11e	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)	W
2	Positioning of the Toes, Foot, and Ankle	14a(3)	PC/W
3	Positioning of the Leg	14a(3)	PC/W
4	Osteology and Arthrology of the Knee and Femur	13b(1)	W
5	Osteology and Arthrology of the Pelvic Girdle	13b(1)	W
6	Positioning of the Knee and Femur	14a(3)	PC/W

7 Positioning of the Hips and Pelvis 14a(4) 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)	W
2	Positioning of the Cranium	14a(10-13)	PC/W
3	Osteology and Arthrology of the Facial Bones	13b(1)	PC/W
4	Positioning of the Facial Bones and Paranasal Sinuses	14a(11-12)	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)	W
2	Positioning of the Ribs and Sternum	14a(8), 14a(9)	PC/W
3	Osteology and Arthrology of the Vertebral Column	13b(1)	W
4	Positioning of the Cervical Spine	14a(7)	PC/W
5	Positioning of the Thoracic and Lumbar Spine	14a(7)	PC/W
6	Positioning of the Sacrum, Sacroiliac Joints, and Coccyx	14a(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 Self-Pace		
2	Quality Air Force Awareness		
3	Medical Terminology	13a	W
4	Introduction to Anatomy and Physiology	13a	W
5	Anatomy and Physiology of the Integumentary System	13b(9)	W
6	Anatomy and Physiology of the Muscular System	13b(2)	W
7	Anatomy and Physiology of the Reproductive System	13b(10)	W
8	Anatomy and Physiology of the Endocrine System	13b(8)	W
9	Anatomy and Physiology of the Respiratory System	13b(3)	W
10	Contrast Media and Emergency Treatment of Patient Reactions	15a	W
11	Anatomy and Physiology of the Cardiovascular and Lymphatic Systems	13b(4)	W
12	Contrast Studies of the Venous System	15b, 15c(11)	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)	W
2	Anatomy and Physiology of the Digestive System	13b(5)	W
3	Contrast Studies of the Digestive System	15b, 15c(1)	W
4	Contrast Studies of the Biliary System	15b, 15c(2)	W
5	Anatomy and Physiology of the Urinary System	13b(6)	W
6	Contrast Studies of the Urinary System	15b, 15c(3)	W
7	Venipuncture	16a(5)	W
8	Tomography	15c(7)	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	14a(1), 14a(2) 14a(3), 14a(4)	PC/W
2	Additional Radiographic Proj. of the Vertebral Column	14a(7)	PC/W
3	Additional Radiographic Projections of the Skull	14a(10)	PC/W
4	Additional Radiographic Proj. of the Chest and Abdomen	14a(5), 14a(6)	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	11e	W
2	Automatic Exposure Systems	11e	W
3	Methods of Recording the Fluoroscopic Image	15c(1), 15c(2), 15c(4), 15c(10)	W
4	Portable Fluoroscopy	15c(9)	W
5	Special Studies of the Skeletal System	15c(5)	W
6	Surgical and Bedside Radiography (Portable)	15c(8)	W
7	Maintenance of Records and Composite Health Care System	10d, 10e	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	14a(1), 14a(2), 14a(3), 14a(4)	W
2	Medical Service Mission and History	1a(1)	W
3	Report of Survey Procedures	7f	W
4	Professional Ethics	8a	W
5	Career Progression	1c	W
6	Operations Security	2	W
7	Darkroom Maintenance and Film Handling	11h, 12b(1)	PC/W

7.1.14. **Block XIV** – Performance Rechecks

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

7.2. **Initial Skills Course (Course J5ABO4R031-001, Diagnostic Imaging Apprentice, 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	NA	NA
2	AFOOSH Training	4b	NA
2	Course Orientation	NA	NA
3	Standard Policies	NA	NA
4	Professional and Patient Relationships	8a, 8b	NA
5	Performance	NA	NA
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); 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; 13b, 14a(5),(6),(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>
1	Standard Radiographic Positions and Anatomy of the Skull and Vertebral Column	13b(1); 14a(7),(10),(11),(12)	W





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)-16a(7)	W
2	Maintaining Medical/Surgical Aseptic Technique	15c(4), (6), (8), (9), (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	1c	W
8	Privacy Act and Release of Patient Information	8c	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, 15b; 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),(7),(10); 15b, 15c(4)-(6)	W

7.2.8. **BLOCK VIII - Film Processing and CT**

<u>Unit</u>	<u>Title</u>	<u>STS Ref</u>	<u>Meas.</u>
1	Quality Control	12a(1)(d)-12a(3), 12b(1)-(2)	W
2	Darkroom	11h, 11j, 14c	W
3	Computed Tomography	19b(1)-19b(5), 19c(1)- 19c(5), 19d(1)	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	Radiation Protection	14c(1)-(2)	W
3	Control of Secondary and Scattered Radiation	11f	W
4	Technique Charts	11e	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	10b, 10d	PC
2	Tasks associated with the File Room	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 the darkroom	11b, 11h, 12a(2)(a)-(c), 12b(1)(a)-(c)	PC
2	Tasks associated with equipment quality control	12a(1)(a)-(c)	PC
3	Clean intensifying screens	12b(3)	PC
4	Perform film reproduction	11j	PC
5	Perform image quality control	14b	PC

7.2.12. **BLOCK XII - Clinical Radiographic Procedures**

<u>Unit</u>	<u>Title</u>	<u>STS Ref</u>	<u>Meas.</u>
1	Perform routine clinical radiography	11e, 14a(1)-(13)	PC
2	Performing special clinical radiography	15c(1),(3),(7); 16a(3),(5); 17a,d	PC
3	Perform mobile radiography	4c(2), 15c(8), 16c	
4	Perform mobile fluoroscopy	4c(2), 15c(9), 16c	
5	Identify gross pathology on radiographs	14a(1)-(12); 15c(1),(3),(7)-(9)	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	NA	NA
2	End-of-Course Appointments	NA	NA

### 7.3. Advanced Skills Course: J3ACR4R071, 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	NA	NA
2	Career Ladder Progression	1b, 1c	W
3	Supervision of Military and Non-Military Personnel	5a-5I	W
4	Training	6a, 6b, 6c(2)	W
5	Air Force Occupational Safety and Health Program	4a, 4b, 4d	W
6	Mid-Block Written Test and Critique	N/A	N/A
7	Radiologic Service Supply Requirements	7a-c, 7e, 7g-h	W
8	Professional and Patient Relationships	8a, 8b	W
9	Radiologic Service Administration	10a, 10g-k	W
10	Technical and Regulatory Overview of Shredouts and SEIs	18a-e	W

#### *Section C - Support Material*

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

**8. NOTE:** There is currently no advanced course. 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 (Phase I)	Sheppard AFB, TX
J5ABO4R031-001	Diagnostic Imaging Apprentice (Phase II)	Various Phase II sites
J3ACR4R071-002	Diagnostic Imaging Craftsman	Sheppard AFB, TX
J3ALR4R031B-000	Diagnostic Ultrasound (Phase I)	Sheppard AFB TX
J3ALO4R031B-000	Diagnostic Ultrasound (Phase II)	Various Phase II Sites
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

There are currently no exportable courses. This space reserved.

## 13. Courses Under Development/Revision

<u>Course Number</u>	<u>Course Title</u>	<u>Location</u>
To be announced	Magnetic Resonance Imaging QTP	N/A

## ***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 AFCAT 36-2223, *USAF Formal Schools*, 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 "OJT" record. Over the years, training documentation has taken on many forms. Previous restrictions imposed by AFR 50-23, *On-the-Job 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. Air Force Instruction 36-2201, *Developing, Managing, and Conducting Training*, Para 3.4.3 authorizes Career Field Managers to bring training documentation back into one "OJT" record, thus the creation of the Enlisted Training and Competency Folder (6-Part Folder). The following training information provides specific guidance along with recommended documentation, consistent with current Air Force instruction/directives. This training guidance has focused on two main areas: 1) Developing a Master Training Plan, and 2) Documentation of the Training in the Enlisted Training and Competency Folder.

### 14.2. 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 **Attach 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. In addition, 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.

<b>ENLISTED TRAINING AND COMPETENCY FOLDER</b>		
Jones, William G. SRA 123-45-6789		
<b>PART 1</b> - Locally required training and skills competency documentation (AF Form 2519 General Purpose Form or locally produced competency verification checklist) - AF Form 55-Safety Training	<b>PART 3</b> - AF Forms 1098 -- Mandatory Training (Section A) -- In-service (Section B)	<b>PART 5</b> - AF Form 2096 - PC III documentation
<b>PART 2</b> - AF Form 623b - CFETP - AF Form 797 (if any)	<b>PART 4</b> - AF Forms 623a - Job Description/Performance and Expectations (Standards) -- Orientation -- Training progress (CDC, upgrade, etc.)	<b>PART 6</b> - Continuing Education to sustain National Certification - Certificates

**Figure 1. Organization of the 4XXXX OJT record. (4ROX1X’s Model)**

**COMPETENCY VERIFICATION RECORD:  
VENIPUNCTURE**

Date of Checklist Creation/Revision: Feb 1997

NAME: \_\_\_\_\_

	S	U
<p><b>I. COGNITIVE</b></p> <p><b>Teaching Methodology:</b> Self-directed study.  <b>Reference:</b> Lippincott Manual of Nursing Practice (5th Edition)  <b>Method of Evaluation/Standards:</b> Written Test/90%  <b>Frequency of Reverification:</b> 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><b>II. PERFORMANCE</b></p> <p><b>Teaching Methodology:</b> Demo/Performance  <b>Method of Evaluation/Standard:</b> Performance Check/ Satisfactory completion of all critical elements  <b>Frequency of Reverification:</b> Annually</p> <p><b>Instructions:</b> 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"> <li>A. Wash hands.</li> <li>B. Assemble appropriate equipment.</li> <li>C. Verify patient's identification.</li> <li>D. Explain procedure to patient before starting.</li> <li>E. Apply tourniquet above the puncture site.</li> <li>F. Palpate and locate vein.</li> <li>G. Properly cleanse the puncture site.</li> <li>H. Insert vacu-tainer or syringe and needle properly.</li> <li>I. Release tourniquet.</li> <li>J. Inject contrast media. (Maintain open injection site, if needed.)</li> <li>K. Press sterile 2X2 over site while removing needle.</li> <li>L. Have patient elevate arm and hold pressure over the site for 1-2 minutes.</li> <li>M. Properly dispose of sharps.</li> </ul>		



	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 & 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 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	CERTIFICATION						COMPLETION DATE
		START DATE	CERTIFYING OFFICIAL'S INITIALS	TRAINEE'S INITIALS	MAJCOM DIRECTED USE ONLY			
1	ACCUSON 126/XP ULTRASOUND COLOR DOPPLER							
2	AEGIS DIGITAL IMAGING SYSTEM							
TRAINEE NAME								

AF FORM 797, MAY 87 (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 4ROX1(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	FREQUENCY G	DUE DATE H
BLS Training	1 Apr 95			4 Hours	C	Bi-enn	1 Apr 97
BLS Training							
Patient Sensitivity	20 Mar 96			P		A	20 Mar 97
Fire Safety	20 Mar 96			P		A	20 Mar 97
Infection Control	20 Mar 96			P		A	20 Mar 97
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 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 to 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 96			1 Hour			
Basic Radiation Protection	8 Feb 96			1 Hour			
Intro to Digital Imaging	20 Mar 96			1 Hour			
Mammography Physics	10 Apr 96			1 Hour			
Positioning of the C-spine	20 May 96			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 Figure 6, 6.1, 6.2.). 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 1997

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 94. 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 Radiology 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 1997

A mid-orientation progress check was accomplished on this date. SrA Jones has progressed throughout the Diagnostic Imaging orientation checklist dated 17 Mar 94, 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 95.

SrA Jones	SSgt Smith
	Diagnostic Imaging Flight

12 Mar 1997

SrA Jones has completed all training on the Diagnostic Imaging flight orientation checklist dated 17 Mar 94. 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
--------	--------

<b>MSgt I. B. Finish</b>	<b>Capt U. R. Done</b>
<b>NCOIC, Diagnostic Imaging</b>	<b>OIC, Diagnostic Imaging Flight</b>

LAST NAME    FIRST NAME    MIDDLE INITIAL

Figure 6.1 Sample Orientation Briefing (4R0X1X Model)

<b>ON - THE - JOB TRAINING RECORD CONTINUATION SHEET</b>		
<b><i>INITIAL BRIEFING</i></b> <b><i>(Trainee Orientation)</i></b>		
<p>_____ 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.</p>		
<p>_____</p> <p><b><i>SUPERVISOR'S SIGNATURE</i></b></p>	<p>_____</p> <p><b><i>TRAINEE'S SIGNATURE</i></b></p>	<p>_____</p> <p><b><i>DATE</i></b></p>
<p>LAST NAME    FIRST NAME    MIDDLE INITIAL</p>		

**AF FORM 623a MAR 79**

PREVIOUS EDITION WILL BE USED

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 is issued by your supervisor. You must work it in the same 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 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**

23 July 1996

- 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.

William Jones, SrA  
Diagnostic Imaging Flight

23 July 96

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.

John Smith, TSgt, USAF  
OJT Trainer  
Diagnostic Imaging Flight

TRAINEE NAME

**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, [i.e., 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 (mandatory) filed in the MTP, part 6. Copies of forms from Section F can be made and will be filed into part 6.

## ***RADIOLOGY CONTINUING MEDICAL EDUCATION***

**NAME:** \_\_\_\_\_

**SSAN:** \_\_\_\_\_

**REGISTRY RENEWAL MONTH:** \_\_\_\_\_

<b><i>CERTIFICATION DATES/REGISTRY NUMBERS</i></b>					
<b>Radiography:</b> Date _____ # _____		<b>MRI:</b> Date _____ # _____			
<b>Nuc Med:</b> Date _____ # _____		<b>CT:</b> Date _____ # _____			
<b>US:</b> Date _____ # _____		<b>Mammo:</b> Date _____ # _____			
<b>DATE</b>	<b>Accredited Course/ Program Title</b>	<b>Program/Course or Reference #</b>	<b>Credit Hours A or B</b>	<b>Modality Credit (rad, mammo, U/S, nuc med, etc.)</b>	<b>Regulatory Requirement</b>

**Figure 8, Sample Diagnostic Imaging CME Accumulation Form**