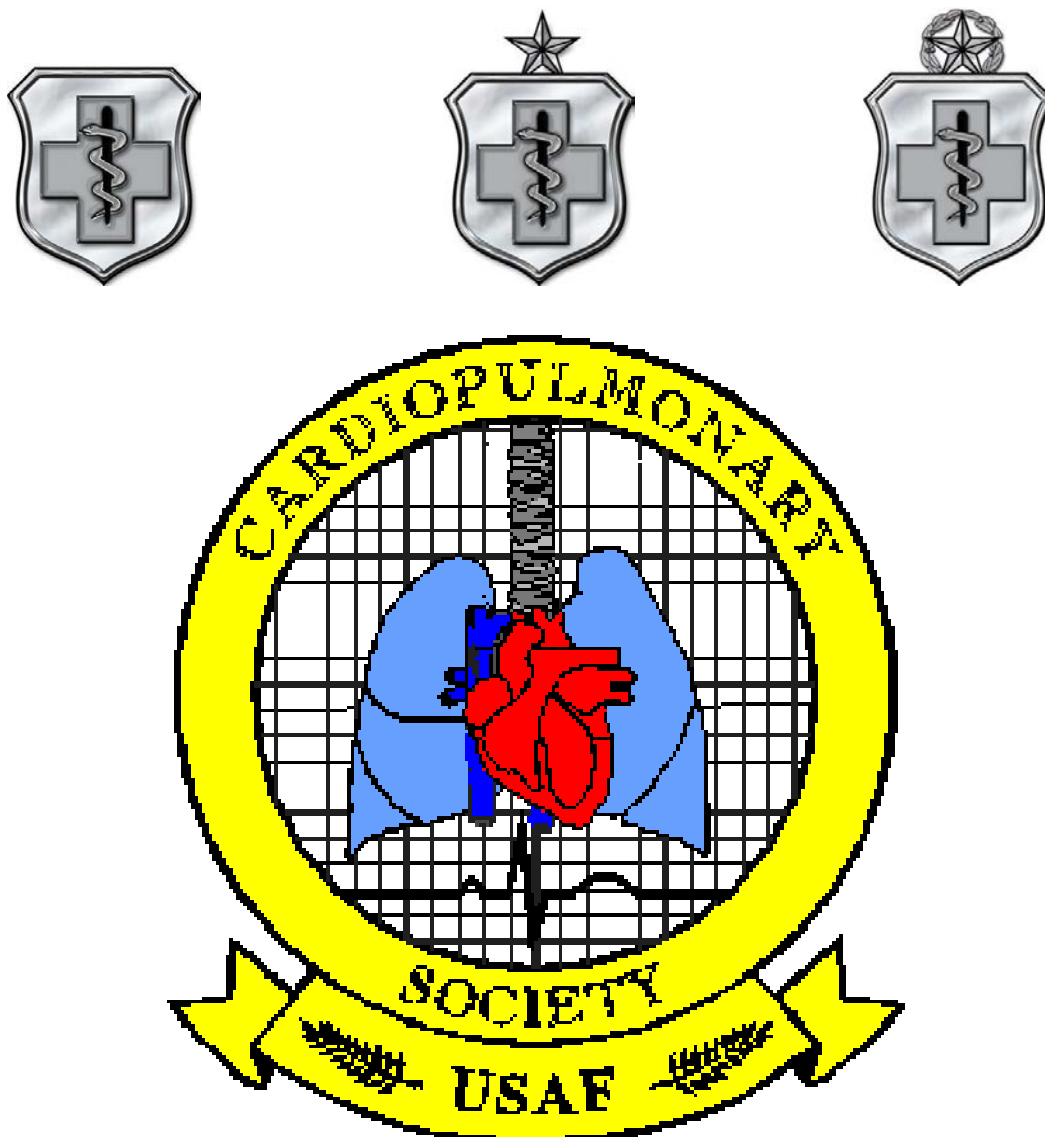


DEPARTMENT OF THE AIR FORCE
Headquarters US Air Force
Washington, DC 20330-1030

CFETP 4H0X1
Parts I and II
15 AUGUST 2017

Air Force Specialty Code 4H0X1

CARDIOPULMONARY LABORATORY



CAREER FIELD EDUCATION AND TRAINING PLAN

ACCESSIBILITY: Publications and forms are available on the Air Force e-Publishing website at <http://www.e-publishing.af.mil> for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

**CAREER FIELD EDUCATION AND TRAINING PLAN
CARDIOPULMONARY LABORATORY
AFSC 4H0X1**

TABLE OF CONTENTS

PART I

PREFACE.....	4
ABBREVIATIONS AND TERMS EXPLAINED.....	6
SECTION A – GENERAL INFORMATION.....	13
Purpose of the CFETP	
Use of the CFETP	
Coordination and Approval of the CFETP	
SECTION B – CAREER FIELD PROGRESSION AND INFORMATION.....	14
Specialty Descriptions	
Skill and Career Progression	
Apprentice Level (3)	
Journeyman Level (5)	
Craftsman Level (7)	
Superintendent Level (9)	
Training Decisions	
Community College of the Air Force (CCAF)	
Active Duty 4H0X1 Career Field Path	
SECTION C – SKILL LEVEL TRAINING REQUIREMENTS.....	26
Purpose	
Training Requirements	
Apprentice Level (3)	
Journeyman Level (5)	
Craftsman Level (7)	
Superintendent Level (9)	
Requalification	
SECTION D – RESOURCE CONSTRAINTS.....	30
SECTION E – TRANSITIONAL TRAINING GUIDE.....	31

PART II

SECTION A – SPECIALTY TRAINING STANDARDS.....	32
SECTION B – COURSE OBJECTIVE LIST.....	53
SECTION C – SUPPORT MATERIALS.....	54
Qualification Training Packages (QTP)	

SECTION D – TRAINING COURSE INDEX.....	55
SECTION E – MAJCOM-UNIQUE REQUIREMENTS.....	56
SECTION F – DOCUMENTATION OF TRAINING (MEDICAL SPECIFIC).....	59

OPR: AF/SG1/8

Certified By: CMSgt Kevin Jones (4H0X1 AFCFM)

Supersedes: CFETP4H0X1, 28 February 2013; CFETP4H0X1C1, 2 April 2013; CFETP4H0X1, 8 August 2014

Pages: 60

CARDIOPULMONARY LABORATORY SPECIALTY

AFSC 4H0X1

CAREER FIELD EDUCATION AND TRAINING PLAN

PART I

PREFACE

1. The ever-changing Air and Space Expeditionary Force (AEF) environment requires vision, preparation, and attention to ensure people have the right skills and tools to deliver the capabilities and the support required by the war fighter in meeting the Air Force (AF) mission of today and vision of the future. Declining resources, expanding mission diversity, and new technologies in the AF are impacting the readiness of our most valuable resource—people. These factors will continue to exist in the future, making it essential for the workforce to be effectively and efficiently trained to perform duties within each skill level of an Air Force Specialty (AFS). To meet the challenges of tomorrow, the AF must place a greater emphasis on career field training today.

2. This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education and training requirements, training support resources, and minimum requirements for the deliberate development of the 4H0X1 Air Force Specialty Code (AFSC). The CFETP will provide Cardiopulmonary Laboratory personnel a clear career path to success and will instill rigor in all aspects of career field training. Note: Civilians occupying associated positions will use Part II to support duty position qualification training.

3. The CFETP consists of two parts. Supervisors plan, manage, and control training within the specialty using both parts of the plan.

3.1. Part I provides information necessary for overall management of the specialty. Section A, General Information explains how everyone will use the plan. Section B, Career Field Progression and Information identifies career field progression, duties and responsibilities, training strategies, and career field path. Section C, Skill Level Training Requirements associates each skill level with specialty qualifications (knowledge, education, training, and other). Section D, Resource Constraints lists deficiencies in resources needed to accomplish the training mission, such as funds, manpower, equipment, and facilities. Section E, Transitional Training Guide identifies transition training guide requirements for use with merging career fields.

3.2. Part II provides a comprehensive list of training courses and standards available to support career field training requirements. Part II includes the following: Section A, Specialty Training Standard (STS) includes duties, tasks, technical references to support training, Air Education and Training Command (AETC) conducted training, wartime course, core tasks, and correspondence course requirements. Section B, Course Objective List (COL) identifies the standards supervisors will use to determine if Airmen satisfy training requirements. Section C, Support Materials identifies available support materials. An example is a Qualification Training Package (QTP), developed to support proficiency training. These packages are identified and made available on the official [Air Force Electronic Publications](#) website, along with the CFETP. Section D, Training Course Index is a tool supervisors can use to determine if resources are available to support training. Included here are both mandatory and optional courses. Section E, Major Command (MAJCOM)-Unique Requirements identifies specific requirements supervisors can use to determine if additional training is required for the

associated MAJCOM unique qualification needs. Section F, Documentation of Training provides guidance on documentation of training (medical specific) in the Air Force Training Record (AFTR).

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

Pertinent Air Force References:

AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted)*

AFI 36-2201, *Air Force Training Program*

AFI 36-2301, *Developmental Education*

AFI 36-2606, *Reenlistment in the United States Air Force*

AFI 36-2618, *The Enlisted Force Structure*

AFI 41-104, *Professional Board and National Certification Examinations*

AFI 41-106, *Medical Readiness Program Management*

AFI 44-104, *Military and Civilian Consultant Program and Medical Enlisted Career Field Manager Program*

AFI 44-119, *Medical Quality Operations*

AFI 48-123, *Medical Examinations and Standards*

AFI 48-307 Volume 2, *En Route Critical Care*

AFTTP 3-42.51, *Critical Care Air Transport Team (CCATT)*

ABBREVIATIONS AND TERMS EXPLAINED

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

Air Force Career Field Manager (AFCFM). Representative appointed by the respective HQ USAF Deputy Chief of Staff or Under Secretariat, to ensure assigned AF specialties are trained and utilized to support AF mission requirements. AFCFM is the OPR; however, works in concert with MAJCOM Functional Managers (FMs) as required.

Air Force Enlisted Classification Directory (AFECD). This guide establishes the occupational structure of the Air Force (AF) enlisted force. It incorporates the basic authority for the enlisted classification structure into AFI 36-2101, *Classifying Military Personnel (Officers and Enlisted)* and establishes this guide as the official directory for all military enlisted classification descriptions, codes, and identifiers. The AFECD can be found at on the [MyPers](#) website.

Air Force Job Qualification Standard/Command Job Qualification Standard (AFJQS/CJQS). A comprehensive task list, describing a particular job type or duty position. Supervisors documenting task qualifications use them. The tasks on AFJQS/CJQS are common to all persons serving in the described duty position.

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

Air Force Training Record (AFTR). Provides the capability to manage the training lifecycle for Total Force personnel. AFTR may be accessed within the Advanced Distributed Learning Service (ADLS) by clicking on "Training Records" in the bottom right of the ADLS main screen.

Air Reserve Components (ARC). An overarching term used when referring to both the Air National Guard (ANG) and Air Force Reserve (AFR).

American Association for Respiratory Care (AARC). AARC is the leading national and international professional association for respiratory care. The AARC encourages and promotes professional excellence, advances the science and practice of respiratory care, and serves as an advocate for patients and their families, the public, the profession and the respiratory therapist.

Career Field Education and Training Plan (CFETP). A CFETP is a comprehensive core training document identifying: life-cycle education and training requirements; training support resources, and minimum core task requirements for a specialty. The CFETP aims to give personnel a clear path and instill a sense of industry in career field training.

Center for Sustainment of Trauma and Readiness Skills (C-STARS). C-STARS is a training platform that places military physicians, nurses, and technicians into civilian trauma centers that care for large numbers of trauma and critical care patients. Located in Cincinnati, Baltimore and St Louis, the courses' lecture series and skills labs are specifically designed for personnel assigned to various Unit Type Codes (UTCs). It is designed to optimize the student's prior knowledge of clinical scenarios and equipment. Considered formal readiness training, C-STARS contributes to AFSC proficiency sustainment goals and 4H0X1 Comprehensive Medical Readiness Program (CMRP; formerly Readiness Skills Verification Program) requirements.

Certification. A formal indication of an individual's ability to perform a task to required standards.

Certification Official. A person whom the commander assigns to determine an individual's ability to perform a task to required standards.

Certified Cardiographic Technician (CCT). Cardiovascular credential awarded by Cardiovascular Credentialing International (CCI).

Certified Respiratory Therapist (CRT). Respiratory therapy credential awarded by National Board for Respiratory Care (NBRC).

Committee on Accreditation for Respiratory Care (CoARC). CoARC is responsible for setting standards that respiratory therapy education programs must comply with. It evaluates applications for accreditation and performs periodic reviews on respiratory therapy programs. CoARC's mission is to promote quality respiratory therapy education through accreditation services.

Continuation Training. Additional advanced training exceeding the minimum upgrade training requirements with emphasis on present or future duty assignments.

Continuum of Learning (CoL). Designed to deliberately integrate developmental opportunities through a common taxonomy to produce adaptable, knowledge-enabled Airmen for today and tomorrow.

Core Task. Tasks the AFCFM identifies as minimum qualification requirements for everyone within an AFSC, regardless of duty position. Core tasks may be specified for a particular skill level or in general across the AFSC. Guidance for using core tasks can be found in the applicable CFETP narrative.

Course Objective List (COL). A publication derived from initial and advanced skills CTS, identifying the tasks and knowledge requirements, and respective standards provided to achieve a 3-, 5-or 7-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations.

Course Training Standard (CTS). A training standard identifying the training members will receive in a specific course.

Critical Task. A training standard identifying the training members will receive in a specific course.

Critical Care Air Transport Team (CCATT). CCATT consists of a critical care physician, critical care nurse and cardiopulmonary technician. CCATTs assist in carrying out the global patient movement mission. They are a limited, rapidly-deployable resource available in selected situations to supplement en route care patient movement capabilities utilizing a variety of aircraft platforms. CCATT personnel care for critically injured/ill patients while in-transit by air to another medical treatment facility, usually one providing focused medical treatment and/or a higher level of medical care than the patient's originating facility. Ref: AFTTP 3-42.51, *Critical Care Air Transport Team (CCATT)*.

Duty Position Tasks. Tasks assigned to an individual to be qualified for the position currently held. These include as a minimum all core tasks that correspond to the duty position as directed by the AFCFM or MFM, and tasks assigned by the supervisor.

Education and Training Course Announcement (ETCA). Contains specific MAJCOM procedures, fund cite instructions, reporting instructions, and listings for those formal courses conducted or managed by the MAJCOMs or field operating agencies (FOAs). The ETCA contains courses

conducted or administered by the AF and reserve forces and serves as a reference for the AF, DoD, other military services, government agencies, and security assistance programs.

Expeditionary Medical Support (EMEDS). Medical ensemble of people and equipment that is part of the staged, deployable concept of operations. The EMEDS course provides field operational training for personnel assigned to EMEDS. The course simulates a real deployment, allowing students the chance to practice their skills in an actual field setting.

En Route PCS Associated Training. The training of students undergoing a permanent change of station (PCS) while in temporary duty (TDY) status.

Enlisted Initial Skills Training. A formal school course that results in an AFSC 3-skill level award for enlisted or mandatory training for upgrade to qualified officers.

Expeditionary Training. Training for tasks identified by higher headquarters for personnel to perform during contingencies or wartime. Training for these tasks may be provided through formal or on-the-job training.

Exportable Course. Instructional packages that personnel design for use in the field. The course may include printed, computer-based, or other audiovisual materials.

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

External Evaluation. Acquisition and analysis of data from outside the training environment to evaluate the training product in the operating environment.

Field Training. Technical, operator, and other training either a TD or field training team conducts at operational locations on specific systems and associated direct-support equipment for maintenance and aircrew personnel.

Follow on Tech Training. Courses within the technical training pipeline required for personnel to complete their initial skills training.

Front End Analysis (FEA). A structured process used to examine training requirements and identify alternative approaches to training job tasks. The process identifies job tasks to be performed, analyzes the skills and knowledge needed to perform them, assesses the technologies available for training the skills and knowledge, performs a media analysis to recommend the best mix of delivery media, and provides cost and lead-time comparisons for the feasible alternatives.

Functional Area Managers (FAM). The individual accountable for the management and oversight of all personnel and equipment within a specific functional area to support the operational planning and execution. Responsibilities include, but are not limited to, developing and reviewing policy; developing, managing, and maintaining UTCs; developing criteria for and monitoring readiness reporting; force posturing; and analysis. At each level of responsibility (HAF, MAJCOM, Air Component, FOA, DRU, and Unit), the FAM should be the most highly knowledgeable and experienced person within the functional area and have the widest range of visibility over the functional area readiness and capability issues.

Functional Manager (FM). Senior enlisted leaders designated by the appropriate functional authority

to provide day-to-day management responsibility over specific functional communities at the MAJCOM, Field Operating Agency, Direct Reporting Unit, or ARC level. While they should maintain an institutional focus with regards to resource development and distribution, FMs are responsible for ensuring their specialties are equipped, developed, and sustained to meet the functional community's mission as well as encourage force development opportunities to meet future needs of the total AF mission.

Go. The stage at which an individual has gained enough skill, knowledge, and experience to perform the tasks without supervision.

Home Station Training (HST). Training required to perform in the current duty position to include duty position tasks, core tasks, READY program tasks, contingency tasks, and additional duty tasks.

Initial Skills Training. A formal school course that results in an AFSC 3-skill level award for enlisted or mandatory training for upgrade to qualified officers.

Initial Evaluation. An evaluation to review an individual's training qualifications. Supervisors must conduct an initial training evaluation to determine if the individual requires additional training to meet duty position requirements.

Interactive Media. Computer-controlled courseware that relies on trainee input to determine the pace, sequence, and content of training delivery using more than one type of medium to convey the content of instruction. Interactive Multimedia can link a combination of media to include, but not be limited to, programmed instruction, videotapes, slides, film, television, text, graphics, digital audio, animation, and up to full-motion video to enhance the learning process.

Internal Evaluation. Collection of data from within the training environment.

Knowledge Training. Training used to provide a base of knowledge for task performance. It may also be used in lieu of task performance when the training capability does not exist. Learning gained through knowledge rather than hands-on experience.

Major Command (MAJCOM). Usage of this term refers to all Major Commands (MAJCOM), Forward Operating Agencies (FOA), DRU, Air National Guard (ANG), and Air Force Reserve Command (AFRC) unless otherwise indicated.

Master Task List (MTL). A comprehensive list (100%) of all tasks performed within a work center and consisting of the current CFETP or AFJQS and locally developed AF Forms 797 (as a minimum). Should include tasks required for deployment and/or UTC requirements.

Master Training Plan (MTP). Employs a strategy for ensuring the completion of all work center job requirements by using a Master task Listing and provides milestones for task, CDC completion, and prioritizes deployment/UTC, HST tasks, upgrade, and qualification tasks.

Medical Education and Training Campus (METC). The DoD's Tri-Service medical training platform located at Joint Base San Antonio-Fort Sam Houston, TX.

Military Treatment Facility (MTF). A medical facility (hospital, clinic, etc.) owned and operated by one of the component Services of the Department of Defense, and is usually located on or near a military installation.

Mission-Ready Airman. A technical training graduate certified on AFCCFM-defined tasks that are required to be performed at the next duty station, following course completion.

National Board for Respiratory Care (NBRC). The NBRC provides high quality credentialing examinations for respiratory and pulmonary practitioners. It establishes standards to credential practitioners to work under medical direction and issues certificates to credentialed individuals. The NBRC supports ethical and educational standards of Respiratory Care.

No Go. Trainee has not gained enough skill, knowledge, and experience to perform task without supervision.

Occupational Analysis (OA). Collecting and analyzing factual data on the tasks and/or knowledge's performed by Air Force career fields. This data is used to provide personnel and training decision-makers with factual and objective job information which enables them to justify and/or change personnel utilization policies and programs, refine and maintain occupational structures, and establish, validate, and adjust testing and training programs.

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

Position Qualification Training. Training designed to qualify an Airman in a specific position that occurs after upgrade training.

Proficiency Training. Additional training, either in-residence or exportable advanced training courses, or on-the-job training, provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade.

Qualification Training (QT). Hands-on performance training designed to qualify an Airman in a specific position. This training occurs both during and after upgrade training to maintain up-to- date qualifications.

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.

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

Scope of Practice. The range of subject knowledge, task knowledge and task performance that personnel apply in the performance of duty at the appropriate skill level as outlined in CFETP requirements and local MTF guidance.

Special Experience Identifier (SEI) . A three-number code that identifies unique skills not otherwise identified in the personnel data system.

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

Standard. An exact value, a physical entity, or an abstract concept, the appropriate authority, custom, or common consent sets up and defines to serve as a reference, model, or rule in measuring quantities or qualities, developing practices or procedures, or evaluating results. A fixed quantity or quality.

Supplemental Training. Training toward a portion of an AFS without change by AFSC. Formal training on new equipment, methods and technology not suited for on-the-job training.

Task. An observable and measurable unit of work activity or operation that forms a part of a duty with one or more duties making up a job.

Task Certifier. See Certification Official.

The Joint Commission (TJC). TJC accredits and offers performance improvement services for health care organizations. A not-for-profit organization, TJC accredits nearly 15,000 health care organizations.

Third Party Certification. An evaluation of completed training conducted by the task certifier and is only required when directed by the AFCFM.

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

Trainer. A trained and qualified person who teaches personnel to perform specific tasks through OJT methods. Also, equipment the trainer uses to teach personnel specified tasks.

Training Capability. The ability of a unit or base to provide training. Authorities consider the availability of equipment, qualified trainers, and study reference materials, and so on in determining a unit's training capability.

Training Completion Date. Date trainer or task certifier completes task evaluations and determines trainee is qualified to perform the task.

Unit Training Manager (UTM). Individual appointed by the commander who monitors training for a unit.

Training Equipment. The generic term for items trainers use to train aircrew, missile, maintenance, support, or operator personnel. Trainers teach with these items by picturing, simulating or otherwise demonstrating the characteristics of a system, facility or piece of equipment.

Training Provider. An organization that develops or conducts training.

Upgrade Training (UGT). Mandatory training leading to attainment of higher level of proficiency.

Utilization and Training Workshop (U&TW). A forum of MAJCOM FMs (MFM), Subject Matter Experts (SMEs), and training personnel determining career ladder progression training requirements for an AFS.

Wartime Course. Comprised of those tasks that must be taught when courses are accelerated in a wartime environment. Wartime tasks are the tasks to be taught in the 3-level course when the wartime courses have been activated. In response to a wartime scenario, these tasks will be taught in the 3-level

course in a streamlined training environment. These tasks are only for those career fields that still need them applied to their schoolhouse tasks.

Wartime Tasks. Those tasks that must be taught when courses are accelerated in a wartime environment. In response to a wartime scenario, these tasks will be taught in the 3 level course in a streamlined training environment. These tasks are only for those career fields that still need them applied to their schoolhouse tasks.

SECTION A – GENERAL INFORMATION

1. **Purpose.** This CFETP provides the information necessary for AFCFMs, MAJCOM Functional Managers (MFM), commanders, training managers, supervisors and trainers to plan, develop, manage, and conduct an effective and efficient career field training program. The plan outlines the training 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 AF or upon retraining into this specialty for award of the 3-skill level. Normally, this training is conducted by AETC at one of the technical training centers. Upgrade training identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 3-, 5-, 7-, 9-skill level. Qualification training is actual hands-on task performance training designed to qualify an Airman in a specific duty position. This training program occurs both during and after the upgrade training process. It is designed to provide the performance skills and knowledge required to do the job. Advanced training is formal specialty training used for selected airmen. Proficiency training is additional training, either in-residence or exportable advanced training courses, or on-the- job training provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade. The CFETP has several purposes—some are:

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

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

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

1.4. Identifies major resource constraints 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. AETC training personnel will develop or revise formal resident, nonresident, field and exportable training based upon 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. OJT, resident training, and contract training or exportable courses can satisfy identified requirements. MAJCOM-developed training to support this AFSC must be identified for inclusion into the plan.

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

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

SECTION B – CAREER PROGRESSION AND INFORMATION

4. Specialty Description. The specialty description is composed of two sections; the specialty summary and the duties and responsibilities found in the AFECD.

4.1. Specialty Summary. Performs and manages cardiopulmonary functions and activities for respiratory therapy services, noninvasive diagnostic cardiac procedures, invasive diagnostic and interventional cardiac procedures, pulmonary function testing, and diagnostic and therapeutic bronchoscopies. Related DoD Occupational Subgroup: 130000.

4.2. Duties and Responsibilities: These job descriptions outline the general nature and level of work performed. Job duties may be modified as needs and demands of the job dictate. **NOTE:** *Several common Cardiopulmonary Laboratory activities, tasks, concepts, procedures, etc., identified in one Cardiopulmonary discipline may also exist in another.*

4.2.1. Respiratory Therapy Services (Primary mission for all 4H0X1s): Supports life by management of invasive/non-invasive mechanical ventilation of neonates/infants and/or adults. Performs comprehensive assessment of patient's cardiopulmonary status. Assists physicians to establish and maintain artificial airways. Administers aerosol therapies (bland, medicated and metered dose). Performs airway clearance techniques, such as oral, nasal, and tracheal suctioning; coughing; deep breathing instruction; exercises and chest physical therapy. Performs lung expansion techniques. Monitors physiological responses to therapies to include vital signs, arterial blood gases, and blood chemistry changes. Determines needs related to the frequency and duration of the treatment regime ordered by the physician. Interprets clinical data and recommends additional procedures and/or pharmacologic interventions to physicians. Assists physicians with the performance of procedures, such as intubation/extubation, chest tube/arterial line insertions, weaning from patients from ventilators, etc. Communicates with multidisciplinary care team about discrepancies and concerns. Evaluates effects of respiratory therapy treatment plan by observing, noting, and evaluating patient's progress. Immediately reports adverse reactions following established mechanisms. Responds to emergent situations in the hospital and assists with providing cardiopulmonary resuscitation and advanced cardiovascular life support. Provides education and instruction to patients, family, staff, and students about theory, therapy and equipment used in Respiratory Therapy procedures and techniques, and documents as required. Documents patient care services by charting in patient and department records. Ensures operation of equipment by completing preventive maintenance requirements; follows manufacturer's instructions; troubleshoots malfunctions; turns in equipment for repairs. Maintains safe and clean working environment by complying with procedures, rules, and regulations. Protects patients and employees by adhering to infection-control policies and protocols. Maintains professional and technical knowledge by attending educational workshops, reviewing professional publications, establishing personal networks and participating in professional societies. Practices safety and security measures.

4.2.2. Pulmonary Laboratory Services: Pulmonary laboratory technicians assist physicians through a variety of non-invasive and invasive procedures to diagnose and treat pulmonary disorders.

4.2.2.1. Pulmonary Functions technician (Some 4H0X1s): Conducts pulmonary function testing to include but not limited to: spirometry, flow volume loops with and without bronchodilator, bronchoprovocation, exercise testing, lung capacity and diffusion capacity to gather data for use by physician. Performs arterial blood gas puncture and analyses, six-minute walk tests, pulse oximetry studies, oxygen therapy, and nebulizer treatments. Maintains quality control of arterial blood gas machines and CO-oximeters, including proficiency testing. Performs asthma evaluations. Assists physicians in special procedures such as therapeutic/diagnostic bronchoscopies and thoracotomies. Maintains pulmonary function equipment and associated supplies. Observes and records readings and conveys findings of tests and analyses to physician for interpretation.

4.2.2.2. Polysomnography (Few 4H0X1s): Provides evaluation and treatment of sleep disorders including in-center testing, diagnostic and therapeutic interventions, comprehensive patient care and direct patient education. Performs, analyzes and reports a wide range of sleep lab studies.

4.2.3. Cardiology Laboratory Services: Cardiovascular technicians assist physicians using a variety of non-invasive and invasive procedures to diagnose and treat heart disease and vascular problems.

4.2.3.1. Non-invasive Cardiology technician (Some 4H0X1s): Performs, analyzes and reports a variety of tests to include electrocardiograms (EKGs) and ambulatory monitoring to assist physicians with diagnosing heart problems. Administers stress tests to check heart functioning during exercise or with a pharmacological agent.

4.2.3.2. Echocardiograph technician (Few 4H0X1s): Prepares patients and diagnostic equipment for ultrasound imaging procedures and explains procedures to patients. Assists physician with trans-esophageal and stress echocardiography and helps interpret data. Assesses heart structures and blood flow via 2-D, m-mode, Doppler and contrast color modalities. Ensures records are properly recorded.

4.2.3.3. Cardiac Catheterization Laboratory technician (Few 4H0X1s): Prepares Cardiac Catheterization Lab and assists physician during procedures. Operates X-ray and physiological monitoring equipment. Ensures equipment is in working order and ready for use. Assists in placing specialized equipment and instruments into cardiovascular system for diagnosis and therapy, including cardiac pacemakers and intra-aortic balloon pumps. Uses imaging equipment to help the physician detect and treat heart and blood vessel issues within the patient.

4.2.4. Performs cardiopulmonary laboratory administrative, maintenance, and support functions. Inspects and ensures equipment is calibrated to manufacturer's specifications. Cleans, disinfects, and sterilizes (or prepares for sterilization) cardiopulmonary equipment. Adheres to infection control policies. Operationally checks and inspects equipment. Determines inventory level of disposable supplies, stocks accordingly, and returns excess stock. Prepares equipment requisitions. Maintains CPR cart. Ensures emergency equipment is available and functional. Schedules patients for evaluations, procedures, and treatments. Obtains medical records. Greets patients and answers telephone. Practices patient and coworker sensitivity. Assists with transportation of patients to and from hospitals, and those in the air evacuation system requiring mechanical ventilation (CCATT). Maintains general correspondence, files, records, and reports. Provides biometric data.

4.2.5. Manages cardiopulmonary laboratory functions and activities. Develops staffing requirements. Determines work priorities, methods, and procedures. Monitors effectiveness of staff training programs. Develops operating instructions and determines policies. Prepares budget requirements. Evaluates, budgets, and justifies new equipment purchases. Establishes and maintains publications library. Ensures compliance with credentialing agency standards. Participates in and manages quality assurance and improvement (QA&I) efforts. Directs on-going continuing education and in-services, developed in part from QA&I findings. Ensures implementation of disaster and emergency plans, as well as safety and security. Collects, analyzes, and reports biometric data. Processes collected data for physician interpretation.

5. Skill and Career Progression. Adequate training and timely progression from the apprentice to the superintendent level play an important role in the AF'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 viable training at appropriate points in their career.

5.1. Apprentice (3) Level. Award of the 3-skill level requires successful completion of the initial

skills training provided by two consecutive in-resident courses, Phase I & II. The Cardiopulmonary Lab Apprentice course (Phase I) is located at METC and includes two days of Expeditionary Medical Readiness skills at Joint Base San Antonio-Fort Sam Houston, Camp Bullis, Texas. Phase II training is conducted, currently, at six clinical sites throughout the United States. Upon successful completion of both phases of initial skills training, students will be conferred an Associate's Degree in Respiratory Therapy (AS/RT) near the end of Phase II.

5.2. Journeyman (5) Level. Award of the 5-skill level requires 12 months' UGT time and begins at the first permanent duty station after Phase II completion. Individuals in retraining status, Training Status Code (TSC) 'F', are subject to the same training requirements and must complete a minimum of 9 months in upgrade training (UGT). During UGT, trainees work side-by-side with their supervisor and trainers to qualify on all core and duty position tasks. Through sufficient time and OJT, personnel build their confidence, skills, and abilities, finally becoming fully proficient at their 5-level core tasks and duties. Once upgraded, 5-skill level personnel are eligible to attend supplemental currency and readiness training such as CCATT, EMEDS, SMART (Tier 3) and C-STARs. The journeyman should pursue educational and credentialing opportunities to enhance their careers. Senior Airmen (SrA) are eligible to attend Airman Leadership School (ALS).

5.2.1. EXISTING REQUIREMENT: Award of CRT credential by the National Board for Respiratory Care is required within 6 months from award of 5-skill level to maintain the 4H051 AFSC, waivable only by AFCFM. Specific dates to be awarded the CRT based on Phase I class starts are found in Attachment 5, *Phase I Class List with CRT Credential Deadlines*. Failure to do so may result in AFSC disqualification.

Note: Per CoARC Entry Standards, 1.01, "An educational sponsor must be a post-secondary academic institution accredited by a regional or national accrediting agency that is recognized by the U.S. Department of Education (USDE) and must be authorized under applicable law or other acceptable authority to award graduates of the program an associate or higher degree at the completion of the program." The Cardiopulmonary Laboratory AFSC utilizes the CCAF Associates' in Applied Sciences Degree in Cardiopulmonary Laboratory Sciences to satisfy this requirement, until such time that a contract Associates' in Science Degree in Respiratory Therapy is employed, per 5.2.2.2. below.

5.2.2. Beginning with implementation of new course w/AS in RT degree, date TBD:

5.2.2.1. Cardiopulmonary Laboratory students attending Phase II will challenge the Certified Cardiographic Technician (CCT) exam by the Cardiovascular Credentialing International (CCI) at the end of the Cardiology block of instruction.

5.2.2.2. Near the end of Phase II, students who pass the course will be conferred an Associate's in Science Degree in Respiratory Therapy and will challenge the Therapist Multiple Choice (TMC) exam from the National Board for Respiratory Care (NBRC) while still in Phase II.

5.2.2.3. The award of the CRT and the CCT are required for upgrade to the 4H051 AFSC, waivable only by AFCFM. Maintenance of the CRT credential is required for retention in AFSCs 4H051, 4H071 and 4H091. Active Duty only: Maintenance of the CCT is required for retention in AFSCs 4H051 and 4H071.

5.2.2.4. While the CRT credential is the current minimum standard, the optimal credentialing goal is to attain the Registered Respiratory Therapist (RRT) credential. Therefore, in an effort to achieve the RRT, a 4H031 in UGT who passed the TMC at the "High Cut" and is registry-eligible will challenge the NBRC's Clinical Simulation within 6 months of arriving at their first permanent duty station.

5.3. Craftsman (7) Level. Award of the 7-skill level requires a rank of Staff Sergeant (SSgt), 12

months UGT time starting from notification of selection for promotion, completion of all core and duty position tasks, recommendation by the supervisor and approval by the commander. Individuals in retraining status (TSC “G”) are subject to the same training requirements and must complete a minimum of 6 months in UGT. The craftsman starts assuming some supervisory responsibilities while still maintaining high levels of primary job proficiency.

5.3.1. Professional Military Education (PME) is critical to the development of all Airmen, and must be completed in a manner commensurate with their respective ranks. ALS is required to assume the rank of SSgt. ALS curriculum is designed to develop a mindset and associated skills to meet four graduate attributes: (1) expeditionary Airmen, (2) supervisor of Airmen, (3) military professional, and (4) supervisory communicator.

5.3.2. Career progression beyond the SSgt rank consists primarily of increasing supervision and management responsibilities within the Cardiopulmonary Lab while still performing many of the core tasks of a 5-skill level. As a Technical Sergeant (TSgt), the member may be in charge of an element with supervisory responsibilities for two or more subsections. Prior to promotion to Master Sergeant (MSgt), the member must complete an in-residence course at the Noncommissioned Officers Academy. This course emphasizes leadership training and human resource management to prepare the member to perform at the superintendent level.

5.3.3. Maintenance of the CRT (minimum level credential) is required. For Active Duty only, maintenance of the CCT is required only for those affected by 5.2.2.3. above, and is highly encouraged for all other 4H071 Airmen who entered the Air Force prior to the start of the CCT mandate and are assigned to Cardiology Services.

5.4. **Superintendent (9) Level.** Award of the 9-skill level requires an individual be at least a SMSgt. If selected for promotion, completion of Senior Noncommissioned Officer Enlisted PME is required prior to assuming the rank of Chief Master Sergeant (CMSgt). Maintenance of the CRT credential (at a minimum) is required.

6. **Training Decisions.** The CFETP uses a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the Cardiopulmonary Laboratory AFSC. 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 4H0X1 Specialty Training Requirements Team (STRT) meeting held 25-29 January 2016 at Joint Base San Antonio—Fort Sam Houston, TX, laid the foundation for the training requirements in this CFETP. The following key decisions and changes resulted from the STRT:

6.1. **Initial Skills Training.** A great deal of attention was placed on the Specialty Training Standard (STS) line proficiency codes in order to correlate them with those found on the CoARC and NBRC instructional matrices. Although this alignment significantly increased the number of “3c” proficiency codes on the STS, it does not indicate a commensurate increase in course time. Cardiopulmonary Laboratory Apprentice Course Phase I will require more didactic and lab time, therefore a shift in time from Phase II to Phase I is expected.

6.2. **5-Level Upgrade Requirements.** After discussion regarding the significant disconnect between the current Cardiopulmonary Laboratory education, training and developmental processes compared to a CoARC-accredited civilian Respiratory Therapy training program, all FMs in attendance signaled their understanding for the need to raise the on-time graduation rate, and most importantly, the graduation-to-certification ratio in order to prevent loss of the USAF RT Program’s accreditation. The Functional Community realized that the 2013 AFECD and CFETP did not provide sufficient guidance to achieve these two CoARC program thresholds. This CFETP contains specific guidance that close the gap between the previous 4H0X1 credentialing processes and existing CoARC requirements.

6.3. 7-Level Upgrade Requirements. The 2013 AFECDD and CFETP state "...award of Certified Respiratory Therapist Certification by the National Board for Respiratory Care (within 6 months of 5 skill level...". No guidance existed in regard to how to manage those beyond 6 months of the 5-skill level. Through experience, this guidance proved difficult to enforce for myriad reasons. As discussed above, the specific guidance in this CFETP addresses the credentialing requirement for the 4H0X1 Total Force.

6.4. Proficiency Training. For 4H051 upgrade training, the 4H AFCCFM recommended the development and employment of QTPs in order to standardized 4H OJT in the AFMS. Additionally, the 4H AFCCFM reemphasized the importance of each 4H0X1 to maintain proficiency and currency in the primary readiness skillset, Respiratory Therapy. In order to achieve this, the FM community must place more focus on acquiring and maintaining Training Affiliation Agreements and/or Memorandums of Understanding when and where possible with medical/trauma centers near their respective bases.

6.5. Waiver Procedures.

6.5.1. Waiving Specialty Qualification Requirements. Qualification requirements for this specialty are published in the Air Force Enlisted Classification Directory (AFECDD) and this CFETP. These requirements may be for entry, award or retention of the AFS and respective skill level. However, special circumstances may warrant waiving these requisites. A waiver saves training resources without impacting career field progression or mission accomplishment when an individual possesses qualifications equivalent to the established requirements.

6.5.2. Evaluating Waiver Requests. Supervisors, managers and leaders must compare each waiver request against predetermined standards to maintain AFS integrity. Consider task knowledge, performance, ability to learn and transfer knowledge to performance, and future within the AFS in relation to peers. Requests must consider the following factors:

6.5.2.1. Education. Has the individual previously completed an equivalent education or certification program (or equivalency test), or performed duty in an exceptional manner over an extended period of time in the actual or equivalent AFS or civilian occupation?

6.5.2.2. Training. Has the individual completed an equivalent technical training course or civilian vocational training course, certification program (or equivalency test), or performed duty in an exceptional manner over an extended period of time in the actual or equivalent AFS or civilian occupation?

6.5.2.3. Knowledge. Does the individual possess the career knowledge equivalent to current requirements? Waiver requests must meet the mandatory career knowledge topics identified in the specialty description.

6.5.2.4. Experience. Has the individual performed duty over an extended period of time in the actual or equivalent AFS or civilian occupation? Supporting documentation must include proof of experience, such as performance reports, training records, state or federal operating licenses, certificates of affiliation, etc.

6.5.2.5. Other. Does the individual possess the physical ability, aptitude, or qualifications that are equivalent to, or commensurate with, the established requirement?

6.6. Responsibilities

6.6.1. **Individual.** Does the individual acknowledge possessing the prescribed training requirements? Trainees must understand what their education and training requirements are, accept responsibility for training, and document task qualification.

6.6.2. **Supervisor.** Did the commander and supervisor fulfill their obligations to the trainee and the training program? Level of support or involvement is not, by itself, justification for approving waivers; it may indicate problems in training equity or other areas.

6.6.3. **Training System Equity.** This area relates to circumstances beyond a trainee's control such as the following: Were training or testing conditions abnormal? Did the training or testing system provide the best opportunity for successful completion of training requirements? Was the training or testing system flexible enough to allow for unexpected situations or conditions? Did those responsible for the training or testing program fulfill their obligations effectively? Depending on the facts, this area may warrant options other than approving a waiver.

6.7. **Processing Waiver Requests.** Process waiver requests according to AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted)*, AFI 36-2201, *Air Force Training Program*.

6.8. **Waiving Scope of Practice Tasks.** Normally, enlisted medical and dental personnel operate within the guidelines established by the CFETP. The CFETP defines the enlisted scope of practice. When the MTF executive management team determines a need for enlisted personnel to perform tasks clearly beyond the expectations of their AFSC, the MAJCOM Surgeon General considers and grants waivers as appropriate. Consistent with the CFETP review process, these waivers will be reviewed annually. To request a Scope of Practice waiver to perform tasks not found in the CFETP, refer to AFI 44-119, *Medical Quality Operations*.

6.8.1. Waiver requests will include the following:

6.8.1.1. Rationale for expanding practice to include who and where within the MTF.

6.8.1.2. Training protocol.

6.8.1.3. Procedures for competency validation/verification.

6.8.1.4. Guidelines for maintaining proficiency.

7. **Community College of the Air Force (CCAF).** When assigned to an Air Force career field, active duty, ANG and AFRC enlisted members are admitted to the college and registered in the degree program designed for their Air Force specialty. CCAF provides the opportunity for a Cardiopulmonary Laboratory Technologist to obtain an Associate of Applied Sciences Degree in Cardiopulmonary Laboratory Technology. In addition to its associate's degree program, CCAF offers the following:

7.1. **CCAF Instructor Certification (CIC) Program.** CCAF offers the CIC program for qualified instructors who teach CCAF collegiate-level credit awarding courses at a CCAF affiliated school. The CIC is a professional credential that recognizes the instructor's extensive faculty development training, education and qualification required to teach a CCAF course and formally acknowledges the instructor's practical experience. See CCAF Catalog for eligibility requirements. The CIC Program replaced the CCAF Occupational Instructor Certification (OIC) Program, which officially closed on 1 January 2011.

7.2. **Degree Completion Requirements.** The following degree requirements were obtained from the 2017-2019 CCAF Catalog. All Airmen are automatically entered into the CCAF program upon completion of BMT. Prior to completing a CCAF degree, the 5-skill level must be awarded and the following requirements must be met:

Subject	Semester Hours
Technical Education.....	24
Leadership, Management & Military Studies.....	6
Physical Education.....	4
General Education.....	15
Program Electives.....	15
Total Requirements.....	64

7.2.1. Residency Requirement (16 semester hours). A student must have a minimum of 16 semester hours of resident CCAF credit applied to his or her degree program to graduate. The 16 semester hours residency requirement is only satisfied by credit earned for coursework completed in a CCAF affiliated school or through CCAF Specialty Internship credit awarded for progression in an Air Force occupational specialty. Note: Proficiency “P” credit and physical education credit awarded for basic military training is not resident credit.

7.2.2. Technical Education Requirement (24 semester hours). 24 semester hours are required to fulfill the technical education requirement. 12 semester hours must be applied from the technical core area with the remaining 12 applied from either the technical core or the technical elective areas. A student can check with the CCAF advisor/training technician for advice regarding specific degree requirements and information regarding transfer credit. Requests to substitute comparable courses or to exceed specified semester-hour values in any subject or course are approved by the Academic Programs Division. Technical education requirements are generally satisfied by entry-level and advanced degree-applicable courses at affiliated schools and through Specialty Internship credit. However, additional technical education requirements may be satisfied by application of courses accepted in transfer, testing credit, distance learning, or issued professional credentials.

Technical Subjects/Courses

Technical Core	Maximum Semester Hours
Advanced Cardiopulmonary Procedures.....	9
Cardiopulmonary Anatomy and Physiology.....	6
Cardiopulmonary Instrumentation.....	3
Cardiopulmonary Invasive/Noninvasive Diagnostic Procedures.....	12
Cardiovascular and Pulmonary Diagnostic Principles.....	8
CCAF Specialty Internship.....	18
Clinical Respiratory Therapy.....	8
Pulmonary Diagnostic Procedures.....	8
Respiratory Therapy.....	6
Technical Electives	Maximum Semester Hours
Computer Science.....	6
Emergency Medicine.....	3
Medical Readiness.....	3
Medical Terminology.....	3
Pharmacology.....	3

7.2.3. Leadership, Management & Military Studies Requirement (6 semester hours). The leadership, management and military studies (LMMS) requirement may be satisfied by applying professional military education, civilian courses accepted in transfer and/or by testing credit. However, the preferred method of fulfilling the LMMS requirement is through attending Airman Leadership School, NCO Academy and/or the Air Force Senior NCO Academy.

7.2.4. Physical Education Requirement (4 semester hours). Completing basic military training satisfies the 4-semester-hour physical education requirement. Civilian courses do not apply to this requirement.

7.2.5. General Education Requirement (15 semester hours). Applicable courses must meet the criteria for application of courses to the general education requirement and agree with the definitions of applicable General Education subject/courses as provided in the CCAF General Catalog. Courses required to satisfy the general education requirement are as follows:

Subject/Courses	Semester Hours
Oral Communication*.....	3
<i>Speech (*Note: As of 1 Jan 17, students registered in the 2017-2019 CCAF General Catalog may complete 6 semester hours of non-duplicative written communication and no oral communication, or 3 semester hours of written communication and 3 semester hours of oral communication)</i>	
Written Communication*.....	3
<i>English Composition</i>	
Mathematics.....	3
<i>Intermediate Algebra or a college-level mathematics. Three semester hours of mathematics are required for graduation. However, if an acceptable general education college-level mathematics course is applied as an applicable technical course, a natural science course may be substituted for mathematics.</i>	
Social Science.....	3
<i>Anthropology, archaeology, culture, economics, geography, government, history, political science, psychology and sociology designed to impart knowledge, develop skills, and identify goals concerning elements and institutions of human society.</i>	
Humanities.....	3
<i>Fine arts (criticism, appreciation, historical significance), foreign language, literature, philosophy, religion</i>	

7.2.6. Program Elective Requirement (15 semester hours). Courses applying to technical education, LMMS or general education requirements; natural science courses meeting general education requirement application criteria; foreign language credit earned at Defense Language Institute; maximum nine semester hours of CCAF degree-applicable technical course credit otherwise not applicable to program of enrollment.

7.3. AETC Instructor Requirements. Additional off-duty education is a personal choice that is encouraged for all. Individuals desiring to become an AETC Instructor must possess as a minimum an associate degree or should be actively pursuing an associate degree. Special Duty Assignment (SDA) requires an AETC instructor candidate to have a CCAF degree or be within one year of completion (45 semester hours). A degreed faculty is necessary to maintain accreditation through the Southern Association of Colleges and Schools. Furthermore, all Phase II instructors must meet credentialing requirements detailed in the Medical Training Guide (MTG).

7.4. The Instructor of Technology and Military Science (ITMS) degree program. The ITMS degree is available to the 4H0X1 career field personnel who are assigned or previously assigned to an instructor “T” prefix at the Cardiopulmonary Laboratory Schoolhouse. Applicants must complete 3

semester hours of CCAF approved instructor methodology coursework and hold their career field-related CCAF degree or equivalent civilian college degree before registration. If the instructor methodology credit earned in the apprentice course is applied to the Cardiopulmonary Laboratory Technology degree, it cannot be used for the ITMS degree. Technicians have the option of using the credits for this course in either of the two degrees available. The journeyman (5) level (or fully qualified equivalent) must be held at the time of program completion. Registrants must complete the program within two years from initial date of registration and have a documented 12 semester hours (180 contact hours) CCAF Teaching Internship transcribed.

7.5. Professional Credential. The term “*Credential*” refers to professional certifications, licensures or registries. CCAF degree technical and/or program elective requirements may be satisfied by credit awarded for specific national professional credentials. Students are responsible for contacting their education center and provide copies of issued credentials and supporting documentation.

7.5.1. Graduation from a CoARC-accredited course affords the Airman an opportunity to attain a number of credentials. The following are the primary Respiratory Therapy and Pulmonary credentials available through the National Board for Respiratory Care: Certified Respiratory Therapist (CRT), Registered Respiratory Therapist (RRT), Certified Pulmonary Function Technologist (CPFT), and Registered Pulmonary Function Technologist (RPFT). Validate eligibility through www.nbrc.org.

7.5.2. A range of cardiovascular credentialing is also available: Certified Cardiographic Technician (CCT), Registered Diagnostic Cardiac Sonographer (RDCS), Registered Vascular Specialist (RVS), Registered Cardiac Sonographer (RCS), Registered Vascular Technologist (RVT), and Registered Cardiovascular Invasive Specialist (RCIS). Eligibility for the CCT examination is granted during Phase II upon completion of the Cardiology block of instruction with clinical verification from a physician. Cardiovascular Credentialing International (CCI) is the National Credentialing Agency for CCT, RVS, RCS, and RCIS. American Registry for Diagnostic Medical Sonography (ARDMS) is the National Credentialing Agency for RDCS and RVT. For more information about the requirements necessary for any of these credentials, visit www.cci-online.org and <http://www.ardms.org>.

7.5.3. More information related to Cardiopulmonary Laboratory credentialing may be found at AF Credentialing Opportunities On-Line (AF COOL) at <https://afvec.langley.af.mil/afvec/Public/COOL/>.

7.5.4. Reference AFI 41-104, *Professional Board and National Certification Examinations*, for detailed information regarding reimbursement for costs associated with initial national certification examinations, re-certifications and maintenance of certifications required for performance of duty.

8. Career Field Path

Development and Utilization Across a 30-Year Career

Education and Training Requirements	Grade Requirements			High Year of Tenure
	Rank	Average Sew-on	Earliest Sew-on	
Basic Military Training School				
Apprentice Technical School (3-Skill Level)	Amn 	6 months		
	A1C 	16 months		
Upgrade to Journeyman (5-skill level) -Minimum 12 months OJT -Minimum 9 months OJT for retrainees	SrA 	3 years	28 months	8 years
Airmen Leadership School -Must be SrA with 48 months' time in service or SSgt-select -Resident graduation is a prerequisite for SSgt sew on (Active Duty Only)	Trainer -Qualified and certified on tasks to be trained -Attend Air Force Training Course			
Upgrade to Craftsman (7-skill level) -Minimum rank of SSgt -Minimum 12 months OJT -Minimum 6 months OJT for retrainees -Complete appropriate courses	SSgt 	4.4 years	3 years	15 years
	Certifier -Possess at least the rank of SSgt with a 5-skill level or civilian equivalent -Attend Air Force Training Course -Must be capable of evaluating the task -Be a person other than the trainer			
Noncommissioned Officer Academy -Must be a TSgt, MSgt selectee, or MSgt -Resident graduation is a prerequisite for sew-on (Active Duty only)	TSgt 	11.5 years	5 years	20 years
	MSgt 	17.2 years	8 years	24 years
USAF Senior NCO Academy (SNCOA) -Must be MSgt, SMSgt-selectee, or SMSgt -Resident graduation is a prerequisite for sew-on (Active Duty Only)	SMSgt 	19.2 years	11 years	26 years
Upgrade to Superintendent (9-skill level) -Minimum rank of SMSgt -Supervisor recommendation				
Chief Master Sergeant Leadership Orientation -Must be CMSgt or CMSgt selectee	CMSgt 	21.2 years	14 years	30 years

Table 8-1

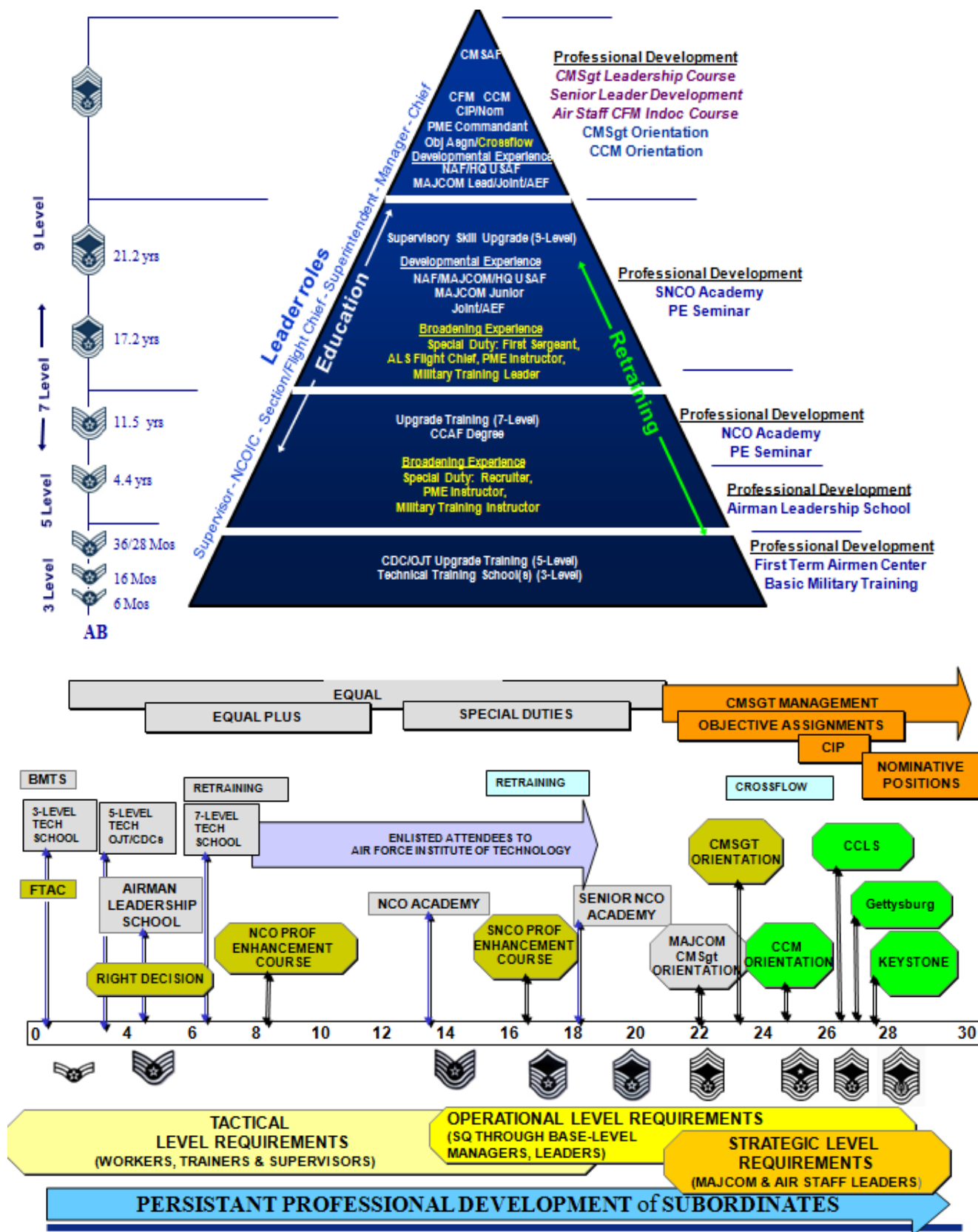


Figure 8-1
Professional Development Pyramid and Timeline

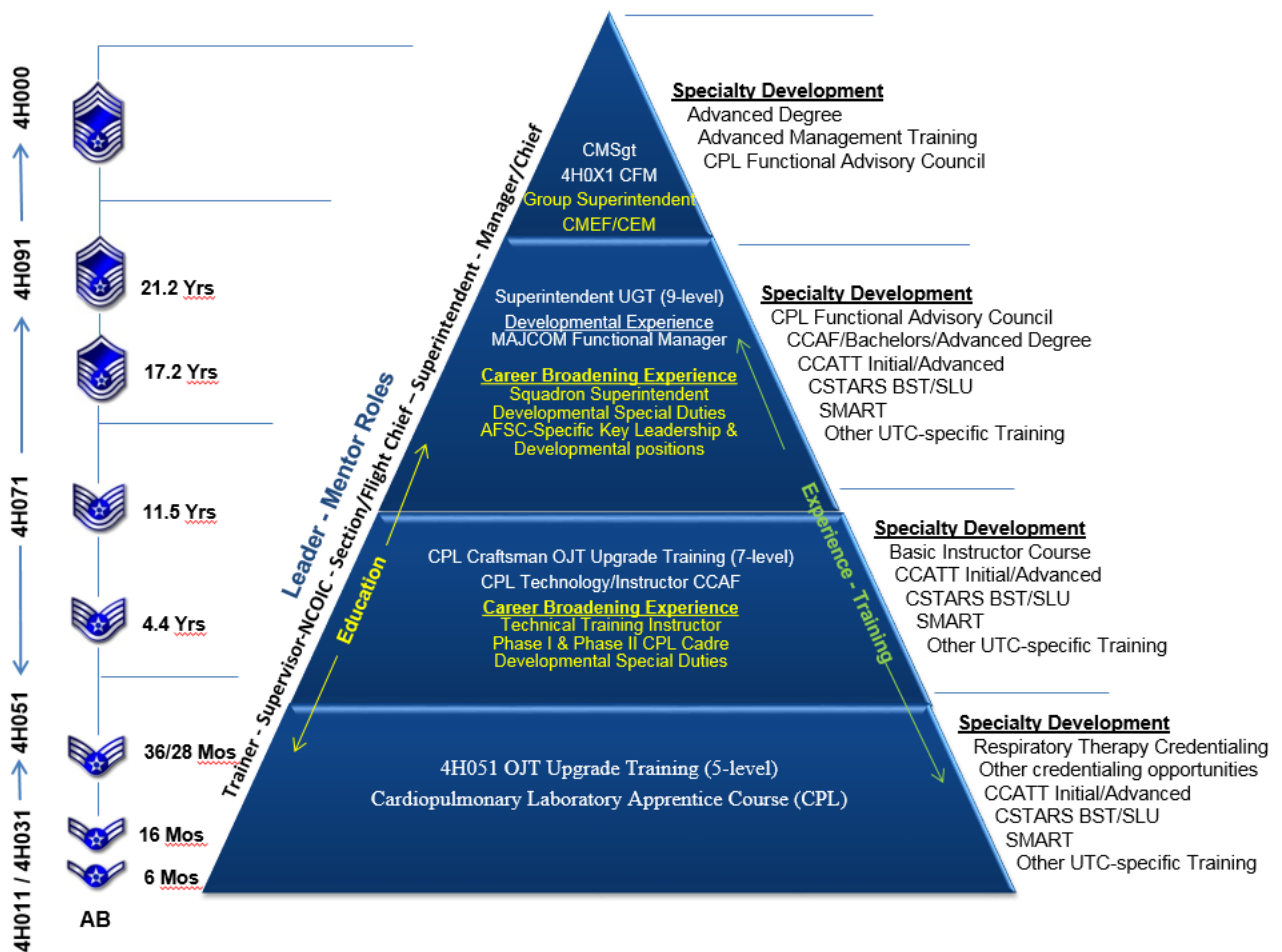


Figure 8-2
4H0X1 Career Field Pyramid

8.1. MyVector. MyVector provides a clear picture of the Cardiopulmonary Laboratory enlisted career field and the key developmental and leadership building opportunities within it such as core functional developmental areas, key roles, Key Leadership/Developmental Positions, and opportunities for progressive movement in the career field and the USAF. Using MyVector, in conjunction with the CFETP and other support tools/resources, empowers the 4H0X1 enlisted force to identify with current functional roles and/or current institutional roles. Additionally, using the MyVector helps Airmen understand how their role fits in the AF, the AFMS, and the career field force development pathway. MyVector assists Airmen with establishing individual career readiness goals by helping them understand where they are now versus where they want to be in the future. MyVector may be accessed on the AF Portal: <https://afvec.langley.af.mil/myvector>.

SECTION C – SKILL LEVEL TRAINING REQUIREMENTS

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

10. **Specialty Qualification Requirements.** This information is located in the official specialty description in the 4H0X1 AFECD. See the *Air Force Enlisted Classification Directory* (AFECD), Attachment 4 – Additional Mandatory Requirements for AFSC Entry, for other additional entry requirements.

10.1. Apprentice Level Training Requirements.

10.1.1. **Knowledge.** Knowledge is mandatory of general anatomy and physiology; cardiopulmonary system structures and functions; basic cardiopulmonary pharmacology; patient care theory, procedures, and techniques; medical terminology; aseptic techniques; medical ethics; resuscitation techniques; maintaining and operating cardiopulmonary diagnostic and therapeutic equipment; medical computer systems; readiness; and resource management.

10.1.2. **Education.** For entry into this specialty, the following college courses are required: English Composition I (3 credits), English Composition II (3 credits), College Algebra (3 credits), Humanities (3 credits), and Social Sciences (3 credits).

10.1.3. **Training.** For award of the 4H031 AFSC, completion of the Cardiopulmonary Laboratory Apprentice Course Phase I and II is mandatory.

10.1.4. **Experience.** No additional experience beyond the education and training provided during the Cardiopulmonary Laboratory initial skills course is required for award of the 3-skill level.

10.1.5. **Other.** Prior to successful completion of the Cardiopulmonary Laboratory initial skills course, the student will be conferred a degree in Respiratory Therapy and must challenge the National Respiratory Therapy Boards as well as the Certified Cardiographic Technologist examination, before being awarded the 4H031 AFSC and in-processing at the next duty station.

10.1.6. **Training Sources and Resources.** Completion of the in-resident Cardiopulmonary Laboratory Apprentice initial skills course satisfies the training requirements specified in the specialty qualification section (above) for award of the 4H031 AFSC. A list of all training courses is in Part II Section A of this CFETP.

10.1.7. **Implementation:** Entry into 3-skill level training is accomplished by new accessions upon graduation from Basic Military Training or by approved retraining from any AFSC at the 5-skill level or higher (must complete normal retraining application). Cardiopulmonary Laboratory initial skills courses are in-residence courses requiring mandatory attendance unless conditions for a specialty qualification requirement waiver are satisfied IAW AFI 36-2201, Air Force Training Program, 4.1.4., Waiving Specialty Qualification Requirements.

10.2. Journeyman Level Training Requirements.

10.2.1. **Specialty Qualification.** Qualification in and possession of AFSC 4H031. Entry into 5-skill level UGT is initiated after the individual has completed the technical training requirements and in-

processed at their gaining unit.

10.2.2. Knowledge. Knowledge through experience, education, training and research of: general anatomy and physiology; cardiopulmonary system structures and functions; basic cardiopulmonary pharmacology; patient care theory, procedures, and techniques; medical terminology; aseptic techniques; medical ethics; resuscitation techniques; maintaining and operating cardiopulmonary diagnostic and therapeutic equipment; and medical computer systems, readiness, and resource management.

10.2.3. Education. Completion of college level courses towards award of the Cardiopulmonary Laboratory Sciences CCAF Degree is highly encouraged but not required to be upgraded to 5-skill level.

10.2.4. Training. Qualification consists of completion of all STS core/duty position tasks. Conduct UGT IAW AFI 36-2201. A minimum of 12 months' OJT is required for upgrade. For retrainees, a minimum of 9 months' OJT is required.

10.2.5. Experience. Must possess experience performing diagnostic and therapeutic procedures/tasks to care for and treat a broad spectrum of cardiopulmonary patients. Must remain proficient and current with the core 4H0X1 readiness requirement—Respiratory Therapy.

10.2.6. Other. Must possess the Certified Respiratory Therapist credential (or higher level Respiratory Therapy credential). For Cardiopulmonary Laboratory Airmen *recruited on or after* the publication of this CFETP, the Certified Cardiographic Technician (CCT) credential is also required in order to be upgraded to the 4H051 AFSC. These requirements are waiverable only by the 4H0X1 AFCFM.

10.2.6.1. Qualified Cardiopulmonary Laboratory Craftsmen will be assigned to a Unit Type Code. Once assigned, the 4H051 must meet and maintain all UTC and Formal Readiness Training requirements.

10.2.6.2. Additionally, qualified Cardiopulmonary Laboratory Journeymen may be eligible to serve in various Developmental Special Duty (DSD) assignments. Reference the [MyPers](#) website for the most current DSD Program information.

10.2.7. Training Sources and Resources. UGT/OJT and 4H051 proficiency/currency training will be conducted utilizing, to include but not limited to, the CFETP, Cardiopulmonary Laboratory QTPs, and associated developmental AFIs.

10.2.8. Implementation. Upgrade training to the 4H051 skill level begins upon assignment to the first duty station and is awarded upon completion of AFSC-specific requirements, mandatory training, supervisor's recommendation and commander approval.

10.3. Craftsman Level Training Requirements.

10.3.1. Specialty Qualification. Qualification in and possession of AFSC 4H051.

10.3.2. Knowledge. Expanded knowledge through experience, education, training and research of: general anatomy and physiology; cardiopulmonary system structures and functions; cardiopulmonary pharmacology; patient care theory, procedures, and techniques; medical terminology; aseptic techniques; medical ethics; resuscitation techniques; maintaining and operating cardiopulmonary diagnostic and therapeutic equipment; and medical computer systems, readiness, and resource management.

10.3.3. Education. Award of the Cardiopulmonary Laboratory Sciences CCAF Degree is expected and

completion of a higher-level degree is highly desirable but not required for promotion or to be upgraded to AFSC 4H071.

10.3.4. Training. Entry into 7-level UGT is initiated when an individual possesses the 5-skill level and is selected to the grade of SSgt. Qualification training is initiated anytime an individual is assigned duties they are not qualified to perform. Enlisted Professional Military Education will be conducted IAW AFI 36-2301.

10.3.5. Experience. Must possess experience in performing and supervising diagnostic and therapeutic procedures/tasks to care for and treat a broad spectrum of cardiopulmonary patients. Must have operational experience for a wide array of cardiopulmonary and respiratory therapy equipment. Must remain proficient and current with the core 4H0X1 readiness requirement—Respiratory Therapy.

10.3.6. Other. Must possess the CRT credential (or higher level Respiratory Therapy credential). For Active Duty Cardiopulmonary Laboratory Airmen *recruited on or after* the publication of this CFETP, the Certified Cardiographic Technician (CCT) credential is also required in order to be upgraded to the 4H071 AFSC. These requirements are waivable only by the 4H0X1 AFSCM.

10.3.6.1. Qualified Cardiopulmonary Laboratory Craftsmen will be assigned to a Unit Type Code. Once assigned, the 4H071 must meet and maintain all UTC and Formal Readiness Training requirements.

10.3.6.2. Additionally, qualified Cardiopulmonary Laboratory Journeymen may be eligible to serve in various Developmental Special Duty (DSD) assignments. Reference the [MyPers](#) website for the most current DSD Program information.

10.3.7. Training Sources and Resources. Units will supply all resources necessary to complete UGT.

10.3.8. Implementation. Award of the 7-skill level consists of the following: completion of 12 months' UGT time (6 months for cross-trainees who held a 7-level in prior AFSC); completion of all AFSC-specific requirements, core tasks identified in the CFETP and all duty position tasks identified by the supervisor; and recommendation of the supervisor and approval by the member's Commander.

10.4. Superintendent Level Training Requirements.

10.4.1. Specialty Qualification. Qualification in and possession of AFSC 4H071.

10.4.2. Knowledge. Advanced knowledge through experience, education, training and research of: general anatomy and physiology; cardiopulmonary system structures and functions; cardiopulmonary pharmacology; patient care theory, procedures, and techniques; medical terminology; aseptic techniques; medical ethics; resuscitation techniques; maintaining and operating cardiopulmonary diagnostic and therapeutic equipment; and medical computer systems, readiness, and resource management.

10.4.3. Education. A superintendent/manager should have earned a career field-related associate's or higher degree.

10.4.4. Training. Individuals should be graduates of the USAF Senior NCO Academy (SNCOA) in-residence and/or correspondence course(s).

10.4.5. Experience. Must possess advanced experience in supervision and oversight of performance of diagnostic and therapeutic procedures/tasks to care for and treat a broad spectrum of cardiopulmonary patients. Must have operational experience for a wide array of cardiopulmonary and respiratory therapy

equipment. Must remain proficient and current with the core 4H0X1 readiness requirement—Respiratory Therapy.

10.4.6. **Other.** Must possess the Certified Respiratory Therapist credential (or higher level Respiratory Therapy credential). This requirement is waivable only by the 4H0X1 AFCFM.

10.4.6.1. Qualified Cardiopulmonary Laboratory Superintendents will be assigned to a Unit Type Code. Once assigned, the 4H091 must meet and maintain all UTC and Formal Readiness Training requirements.

10.4.6.2. Additionally, qualified Cardiopulmonary Laboratory Superintendents may be eligible to serve in various Developmental Special Duty (DSD) assignments. Reference the [MyPers](#) website for the most current DSD Program information.

10.4.7. **Training Sources and Resources.** The upgrading personnel must currently have the 4H071 AFSC and be in the rank of SMSgt (E-8).

10.4.8. **Implementation.** With recommendation of the supervisor and approval by the commander, the Superintendent skill level is awarded upon sew-on of SMSgt.

11. **Requalification.** Requalification is required for 4H0X1 enlisted personnel returning from DSD or when serving outside the primary AFSC duties for more than 365 days. Completion of the last skill level held is required within 90 days of reintegration into Cardiopulmonary Laboratory operations or into a 4H0X1 AFSC UMD authorization. The reintegration addresses critical knowledge and abilities through tailored application based skills outlined in the CFETP for 5- and 7-skill levels. The purpose is to verify competencies focusing on the individual's currency and proficiency in selected STS line items. The supervisor's assessment of an individual's knowledge, proficiency and currency levels are essential in order to fully and successfully reintegrate Airmen into the role of 4H0X1 after extended time away from the tasks and work practices. If individual's CRT lapsed during service outside of the 4H0X1 AFSC, it must be re-achieved w/in a year of reintegration.

12. **4H091 Requalification.** Individuals returning to the career field in the rank of SMSgt or above do not have to meet the above requalification standards, however, they must regain the CRT credential if it lapsed during their time away from the 4H AFSC.

SECTION D – RESOURCE CONSTRAINTS

13. **Purpose.** This section identifies known resource constraints, which preclude optimal and 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.

14. Reporting Job Proficiency Training Constraints - Units/MAJCOMS.

14.1. Supervisors should report known resource constraints that prevent personnel from completing the mandatory training requirements specified in this plan, to their unit-level enlisted specialty training manager. The authority for requesting waivers is AFI 36-2101.

14.2. In the report, provide a brief description of the resource constraints which adversely affect the training program and include the impact this constraint has or will have on training. Identify the specific STS line item and task code(s) affected. Also, provide a brief description of the resource needs to resolve the problem, including expenses, the corrective actions taken or to be taken, and the estimated completion date.

14.3. If the constraint may be resolved at the local level, the report will be coordinated with the senior 4H0X1, and if the impact affects unit war skill requirements, the group CC. If the constraint needs MAJCOM support, forward the report through your MDG/CC to the 4H0X1 MFM. Constraints that cannot be resolved at the unit or MAJCOM level, or have a long term estimated completion date, must be forwarded to the 4H0X1 AFCFM as a request for waiver or deferment of CFETP requirements.

15. Apprentice Level Training Constraints: All Cardiopulmonary Lab Phase II sites must be able to meet a minimum of 200 actual ventilated patient care contact hours per student.

15.1.1. Evaluation and analysis of each Phase II site is required to determine in-house capabilities, to include access to appropriate patient volume and acuity levels. If not able to support the desired patient contact requirement, implement action to establish Memorandums of Understanding (MOU) or Training Affiliation Agreements (TAA) with other medical facilities.

15.1.2. Coordinate efforts with USAF RT Program Key Personnel, MFM and AFCFM. OPR: Affected 4H MFMs, targeted completion date of 30 Sep 17.

15.2. Journeyman and Craftsman Level Training Constraints: IAW AFI 41-106, 4H0X1 MFMs must evaluate each base in their respective MAJCOMs to determine what gaps in training exist in relation to the 4H0X1 CMRP.

15.2.1. If the base is unable to meet 4H0X1 CMRP requirements, the MFM will, where possible, work with local unit leadership to establish and implement an MOU/TAA with a level I (preferable) or II medical facility.

15.2.2. MFMs will coordinate efforts to attain MOUs/TAAs to meet CMRP requirements with the 4H AFCFM. OPR: Affected 4H MFMs, targeted completion date of 30 Sep 17.

SECTION E – TRANSITIONAL TRAINING GUIDE

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

PART II

SECTION A – SPECIALTY TRAINING STANDARD (STS) FOR AFSC 4H0X1

1. **Implementation.** This STS will be used for Cardiopulmonary Apprentice technical training provided by AETC with classes beginning no later than 1 Oct 17. Training documentation will be accomplished in the web-based AF Training Record (AFTR), accessible from the AF Portal via the Advanced Distributed Learning System (ADLS) link.

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

2.1. Section 1 (Task, Knowledge, and Technical Reference). The most common tasks, knowledge, and technical references (TR) necessary for Airmen to perform duties in the 3-, 5-, and 7-skill levels. TRs in the source summary are commercial publications or other service publications that are essential for OJT and mission accomplishment and are referenced by title throughout the STS. The unit OJT section will consolidate the requirements for the unit supported and order publications through the hospital/clinic library activity. TRs listed in Column 1 and in the bibliography (Attachment 4) are approved for use in formal course and MTP development.

2.2. Section 2. Tasks designated with a "5" or a "7" are Core Tasks for 5- or 7-level UGT respectively. During OJT, Core Tasks are to be trained and evaluated to the "Go" level.

2.3. Section 3 provides certification data for OJT. Column A is used to record training start dates; column B is used to record completion of tasks and knowledge training requirements. Columns C, D and E are used to record the initials for trainees, trainers, and certifiers (if needed), respectively. Task certification must show a certification or completion date.

2.3.1. The Cardiopulmonary Laboratory AFCFM has determined that the following tasks will require a Third-Party Task Certifier during OJT/UGT:

2.3.1.1. All duty position-specific STS line items identified on the Master Task List (MTL; see Section F) taught to the "C" or "3c" level in Phase II. Initial qualification for upgrade to 4H051 will also include:

2.3.1.1.1. Cardiopulmonary Career Field

2.3.1.1.2. Safety in the Cardiopulmonary Environment

2.3.1.1.3. Resource Management

2.3.1.1.4. Administrative Functions

2.3.1.1.5. Fundamentals of Patient Care

2.3.1.1.6. Patient Data Evaluation and Recommendations

2.3.1.1.7. Blood Gases

2.3.1.1.8. Emergency Care Procedures

2.3.1.1.9. Respiratory Care. Exclude line item 11.4.8., Mechanical Ventilation at Altitude. Where other training deficiencies exist, document IAW guidance in AFI 36-2201.

2.3.1.1.10. Pharmacology

2.3.1.3. For all other line items identified on the MTL, the AFCFM defers the Third-Party Task Certifier requirement to the local 4H0X1 leadership level.

2.4. Section 4 specifies the level of training provided by the 3-skill level resident Cardiopulmonary Laboratory Phase I and Phase II courses.

2.5. Section 5. For the majority of line items identified on the MTL, the supervisor, trainer, certifier, etc., will *validate* the upgrade trainee's competency. This will be accomplished by use of (but not limited to) the QTPs listed, and/or commercially available/locally developed competency assessment checklists.

2.6. Use the automated training management system, AF Training Record (AFTR), to document technician qualifications.

2.7. **Qualitative Requirements.** Attachment 2 contains the proficiency code key used to indicate the level of training and knowledge provided by the resident training courses.

2.8. **Job Qualification Standard.** The STS becomes a Job Qualification Standard (JQS) for on-the-job training when placed in AF Form 623, *Individual Training Record*, and used according to AFI 36-2201. Refer to this AFI for further guidance on documentation, transcribing, certification, decertification and recertification. When used as a JQS, the following requirements apply:

2.6.1. **Documentation of Initial Training.** When documenting in AFTR, ensure to complete the following: Training Start, Training Complete, Trainee Initials, Trainer Initials and Certifier Initials.

2.6.2. **Decertification and Recertification.** When a supervisor determines an Airman is disqualified on a task previously certified for their duty position, the supervisor deletes certification in AFTR. Appropriate remarks pertaining to the reason for decertification are entered on the AF Form 623a, *On-The-Job-Training Record-Continuation Sheet*.

2.9. **Training Standard.** Tasks are trained and qualified to the "go" or "no go" level. "Go" means the individual can perform the task without assistance and meets local requirements for accuracy, timeliness, and correct procedures. "Go" level equates to "3c" in the STS proficiency code key.

2.10. **Specialty Training Standard.** Guide for development of promotion tests used in the Weighted Airman Promotion System (WAPS). 4H0X1 Specialty Knowledge Tests are developed at the AETC Occupational Measurement Squadron by SNCOs with extensive practical experience in their career field. The test samples 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 Enlisted Promotions References and Requirements Catalog available on [MyPers](#).

3. **Deployment Tasks.** The 4H AFCFM has recommended that 4H0X1 personnel train on the task/knowledge items listed in Table A—Deployment Task Listing (as they pertain to 4H Readiness requirements) prior to a deployment. Upon notification of a UTC tasking, personnel should refer to this list and arrange to complete their CMRP requirements. 4H leadership should optimize training opportunities utilizing SMART Tier 1-3 concepts: Tier 1—Internal training sources, to include hands-on and/or skills labs/locally-developed equivalents; Tier 2—MOUs/TAAAs for access to hands-on patient care; Tier 3—SMART (currently only at Nellis AFB) or C-STARS training platforms in Baltimore and St Louis.

Table A. Deployment Task Listing

- Manage burns
- Apply cervical collar
- Trauma patient assessment
- Perform cricothyroidotomy
- Manage multi-system trauma
- Shock and control of bleeding
- Perform pre-hospital/field triage
- Establish intravenous drip rates
- Monitor intravenous infusion/complications
- Perform needle thoracostomy for tension pneumothorax
- Control bleeding from shunt or invasive monitoring/therapy line

4. **Recommendations.** Identify inadequacies and recommend changes to this training standard through channels to 59 TRG/TGE, 2931 Harney Road, JBSA-Fort Sam Houston, TX 78234 or use the Customer Service Information Line, DSN 420-1080 or Commercial (210) 808-1080 to report your findings.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

MARK A. EDIGER
Lieutenant General, USAF, MC, CFS
Surgeon General

Attachments (4)

1. STS Identification Block
2. Qualitative Requirements
3. Cardiopulmonary Laboratory (4H0X1) STS
4. Training Reference (TR) Bibliography

Attachment 1

STS Identification Block

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

Attachment 2

QUALITATIVE REQUIREMENTS

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

Attachment 3

Cardiopulmonary Laboratory (4H0X1) STS

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E			
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials	Phase I	Phase II	
1. CARDIOPULMONARY CAREER FIELD									
TR: CFETP 4H031; AFD 41-2; AFMAN 36-2108									
1.1. Career Ladder Progression							A	-	-
1.2. USAF Medical Service									
1.2.1. Mission							A	-	-
1.2.2. Organization							A	-	-
1.2.3. Function							A	-	-
1.3. Career enhancement/credentials							B	-	-
2. SAFETY IN THE CARDIOPULMONARY ENVIRONMENT									
TR: AFI 91-202; AFI 91-302; Egan's Fundamentals of Respiratory Care									
2.1. AFOSH Program Standards							A	B	1/2/3
2.2. Hazards							A	B	1/2/3
2.3. General safety principles							A	B	1/2/3
2.4. Apply safety practices									
2.4.1. Electrical equipment							b	3c	1/2/3
2.4.2. Compressed Gases							b	3c	1/2/3
2.4.3. Caustic and corrosive chemicals							b	3c	1/2/3
2.4.4. Drugs and solutions							b	3c	1/2/3
2.4.5. Sharp instruments and glassware							2b	3c	1/2/3
2.4.6. Personal protective equipment							2b	3c	1/2/3
2.5. Report Accidents							b	2b	1/2/3
3. RESOURCE MANAGEMENT									
TR: AFMAN 23-122; AFI 23-101; AFH 23-123; AFI 41-102									
3.1. Perform Medical Expense and Performance Reporting System (MEPRS) activities	5						a	b	-
3.2. Perform diagnosis coding activities	5						a	b	-
3.3. Perform procedure coding activities	5						a	b	-
3.4. Review Manning Documents and Unit Personnel Manning Roster	7						-	-	-
3.5. Develop staffing plans	7						-	-	-
3.6. Develop budgeting requirements	7						-	-	-
3.7. Perform Defense Medical Human Resource Systems internet (DMHRSi) activities	5						a	b	-
4. ADMINISTRATIVE FUNCTIONS									
TR: AFI 44-102; AFI 44-119; AFD 44-1; AFI 90-201									
4.1. Schedule patients for medical procedures							-	-	-
4.2. The Joint Commission or other accreditation agencies							-	-	-
4.3. Air Force Inspection System (AFIS), AFI 90-201							-	-	-
5. FUNDAMENTALS OF PATIENT CARE									
TR: Egan's Fundamentals of Respiratory Care; Clinical Assessment in Respiratory Care; The Society for Healthcare Epidemiology of America									

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
5.1. Medical Ethics							B	-	-
5.2. Basic psychology of human needs							B	-	-
5.3. Structure and function of human body							B	-	-
5.4. Microbiology							A		-
5.5. Infection control									
5.5.1. Bacterial vs. viral hematology							A	-	-
5.5.2. Airborne vs. bloodborne pathogens							A	-	-
5.5.3. Implement infectious disease protocols e.g., avian flu, SARS, transmission prevention							b	3c	1/2/3
5.5.4. Demonstrate adherence to infection control policies and procedures e.g., Standard Precautions							b	3c	1/2/3
5.5.5. Select appropriate agent and technique to									
5.5.5.1. Clean equipment							b	3c	1/2/3
5.5.5.2. Disinfect equipment							b	3c	1/2/3
5.5.5.3. Sterilize equipment							b	3c	1/2/3
5.6. Assure proper handling of biohazardous materials							b	3c	1/2/3
5.7. Monitor effectiveness of sterilization procedures							A	B	1/2/3
5.8. Medical terminology							B	-	1/2/3
6. PATIENT DATA EVALUATION AND RECOMMENDATIONS									
TR: <u>Clinical Assessment in Respiratory Care</u> ; <u>Egan's Fundamentals of Respiratory Care</u> ; <u>ECG's Made Easy</u> ; American College of Cardiology; Cardiovascular Credentialing International									
6.1. Evaluate data in the patient record									
6.1.1. Patient history									
6.1.1.1. Admission data							b	2b	1/2/3
6.1.1.2. Orders and medications							b	2b	1/2/3
6.1.1.3. Progress notes							b	2b	1/2/3
6.1.1.4. DNR status / advanced directives							b	2b	1/2/3
6.1.1.5. Social history							b	2b	1/2/3
6.1.2. Physical examination relative to the cardiopulmonary system							b	2b	1/2/3
6.1.3. Drainage and access devices, e.g., chest tube, artificial airway							b	2b	1
6.1.4. Laboratory results									
6.1.4.1. CBC							b	2b	1
6.1.4.2. Electrolytes							b	2b	1
6.1.4.3. Cardiac enzymes							b	2b	3
6.1.4.4. Culture and sensitivities							b	2b	1
6.1.4.5. Sputum gram stain							b	2b	1
6.1.4.6. Coagulation studies							b	2b	3
6.1.5. Pulmonary function results							b	2b	1/2
6.1.6. Blood gas results							b	2b	1
6.1.7. 6-Minute walk test results							b	2b	2
6.1.8. Sleep study results							b	2b	2
6.1.9. Cardiopulmonary stress test results							b	2b	3

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
6.1.10. Metabolic study results									
6.1.10.1. O2 consumption / CO2 production							b	2b	1
6.1.10.2. Respiratory quotient							b	2b	1
6.1.11. Imaging studies									
6.1.11.1. Chest radiograph							b	2b	1
6.1.11.2. MRI, CT, and PET scans							b	2b	1
6.1.11.3. Ultrasound, ventilation / perfusion scan							b	2b	1
6.1.12. Trends in monitoring results									
6.1.12.1. Fluid balance							b	2b	1
6.1.12.2. Vital signs							b	2b	1/2/3
6.1.12.3. Intracranial pressure							b	2b	1
6.1.12.4. Weaning parameters							b	2b	1
6.1.12.5. Pulmonary compliance, airway resistance, work of breathing							b	2b	1/2/3
6.1.12.6. Pulse Oximetry							b	2b	1/2/3
6.1.12.7. Transcutaneous O2 / CO2							b	2b	1
6.1.12.8. Capnometry / Capnography							b	2b	1
6.1.13. Trends in Cardiac monitoring									
6.1.13.1. ECG							b	2b	1/2/3
6.1.13.2. Hemodynamic parameters							b	2b	1/2/3
6.1.13.3. Cardiac catheterization							b	2b	3
6.1.13.4. Echocardiography							b	2b	3
6.1.14. Maternal and perinatal / neonatal history									
6.1.14.1. APGAR scores							b	2b	1
6.1.14.2. Gestational age							b	2b	1
6.1.14.3. L / S ratio							b	2b	1
6.2. Collect Clinical Information									
6.2.1. Interview a patient to assess									
6.2.1.1. Level of consciousness and orientation, emotional state, and ability to cooperate							b	3c	1/2/3
6.2.1.2. Level of pain							b	3c	1/2/3
6.2.1.3. Presence of dyspnea, sputum production, and exercise tolerance							b	3c	1/2/3
6.2.1.4. Social history, e.g., smoking, substance abuse, etc.							b	3c	1/2/3
6.2.1.5. Environmental exposures							b	3c	1/2/3
6.2.1.6. Activities of daily living							b	3c	1/2/3
6.2.1.7. Patient's learning needs							b	3c	1/2/3
6.2.2. Perform inspection to assess									
6.2.2.1. General appearance							b	3c	1/2/3
6.2.2.2. Airway assessment							b	3c	1
6.2.2.3. Cough, sputum amount and character							b	3c	1
6.2.2.4. Apgar score, gestational age and transillumination of chest							b	3c	1

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
6.2.3. Palpate to assess									
6.2.3.1. Pulse, rhythm and force							b	3c	1/2/3
6.2.3.2. Accessory muscle activity							b	3c	1/2
6.2.3.3. Asymmetrical chest movements and tracheal deviation							b	3c	1/2
6.2.3.4. Tactile fremitus							b	3c	1/2
6.2.3.5. Crepitus							b	3c	1/2
6.2.3.6. Tenderness							b	3c	1/2
6.2.3.7. Secretions in the airway							b	3c	1/2
6.2.3.8. Perform diagnostic chest percussion							b	3c	1/2
6.2.4. Auscultate to assess									
6.2.4.1. Breath sounds							2b	3c	1/2/3
6.2.4.2. Heart sounds and rhythm							2b	3c	1/2/3
6.2.4.3. Blood pressure							2b	3c	1/2/3
6.2.5. Review a chest radiograph to determine									
6.2.5.1. Quality of imaging, e.g., patient positioning, exposure, etc.							b	2b	1/2
6.2.5.2. Position of indwelling tubes and catheters, e.g., endotracheal or tracheotomy							b	3c	1
6.2.5.3. Presence of foreign bodies							b	2b	1
6.2.5.4. Heart size and position							b	2b	1
6.2.5.5. Position of or change in hemidiaphragms or mediastinum							b	2b	1
6.2.5.6. Presence of, or change in, CP abnormalities, e.g., pneumothorax, consolidation, pleural fluid, etc.							b	2b	1
6.2.5.7. Review lateral neck radiograph e.g. epiglottitis, foreign body, etc.							b	2b	1
6.3. Interpret procedure results									
6.3.1. 12-lead ECG (e.g., rate, irregular rhythm, artifact, etc.)							2b	3c	3
6.3.2. Noninvasive monitoring									
6.3.2.1. Pulse Oximetry							2b	3c	1/2
6.3.2.2. Transcutaneous monitoring							b	3c	1
6.3.2.3. Capnometry / capnography							2b	3c	1
6.3.3 Peak flow							2b	3c	1/2
6.3.4. Tidal volume, minute volume and vital capacity							2b	3c	1/2
6.3.5. Screening spirometry							2b	3c	1/2
6.3.6. 6-Minute walk test							b	3c	1/2
6.3.7. Oxygen titration with exercise							b	3c	1/2
6.3.8. Blood gas / hemoximetry analysis							b	3c	1/2
6.3.9. Sputum induction							b	3c	1/2
6.3.10. Cardiopulmonary calculations									
6.3.10.1. P(A-a) O2 gradient							2b	3c	1/2
6.3.10.2. VD / VT							2b	3c	1/2
6.3.10.3. PF ratio							2b	3c	1/2
6.3.10.4. Oxygenation Index (O / I)							2b	3c	1/2

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
6.3.11. Hemodynamic monitoring, e.g., blood pressure, CVP, PAP, PCWP, etc.							2b	3c	1/2/3
6.3.12. Lung mechanics									
6.3.12.1. Plateau pressure							2b	3c	1/2
6.3.12.2. MIP and MEP							2b	3c	1/2
6.3.13. Ventilator graphics									
6.3.13.1. Pressure / volume curve							2b	3c	1
6.3.13.2. Flow / volume loop							2b	3c	1
6.3.13.3. Timed scalars							2b	3c	1
6.3.14. Spontaneous breathing trial							b	3c	1
6.3.15. Apnea monitoring							b	3c	1/2
6.3.16. Overnight pulse oximetry							b	3c	1/2
6.3.17. Tracheal tube cuff pressure							2b	3c	1
6.3.18. Pulmonary compliance and airway resistance							2b	3c	1
6.3.19. Cardiopulmonary stress testing							2b	3c	3
6.3.20. Pulmonary function laboratory studies							2b	3c	1/2
6.3.21. CPAP / BIPAP titration during sleep							2b	3c	1/2
7. BLOOD GASES									
TR: <u>Clinical Blood Gases, Assessment and Intervention</u> ; <u>Egan's Fundamentals of Respiratory Care</u> ; <u>Basic Clinical Lab Competencies for Resp Care</u> ; Equipment Manuals; Hospital Guidelines (OIs/SOPs)									
7.1. Perform sampling techniques									
7.1.1. Percutaneous							2b	3c	1
7.1.2. Arterial line							2b	3c	1
7.1.3. Venous line							-	-	1
7.1.4. Arterialized capillary blood							b	-	1
7.2. Insert arterial line							b	c	1
7.3. Perform blood gas analysis							b	3c	1
7.4. Operate arterial blood gas machines / co-oximeter							b	3c	1
7.5. Perform user maintenance on blood gas machine / co-oximeter							b	3c	1
7.6. Interpret arterial blood gases							2b	3c	1/2/3
7.7. Blood Gas Quality Management (QM) programs									
7.7.1. College of American Pathologists (CAP)							A	-	1
7.7.2. The Joint Commission (TJC)							A	-	1
7.8. Perform blood gas QM procedures									
7.8.1. Blood gas analyzers and co-oximeters							a	2b	1
7.8.2. Point-of-care analyzers							a	2b	1
7.8.3. Record and monitor QM data using accepted statistical methods							a	2b	1
8. EMERGENCY CARE PROCEDURES									
TR: <u>ECG's Made Easy</u> ; <u>Basic Clinical Lab Competencies for Resp Care</u> ; AHA BLS Manual; AHA ACLS Manual									
8.1. Perform cardiopulmonary resuscitation (CPR)							3c	-	1/2/3
8.2. Complete Advanced Cardiovascular Life Support (ACLS)	5						2b	-	1

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
8.3. Interpret warning / lethal arrhythmias							2b	3c	1/3
8.4. Operate defibrillators							2b	3c	1/3
8.5. Operate physiologic monitoring units							2b	3c	1/2/3
8.6. Establish peripheral IV							a	2b	3
8.7. Assist physician in administration of emergency medication							b	3c	1/2/3
8.8. Perform code cart checks							a	3c	3
9. CARDIOVASCULAR									
TR: <u>ECG's Made Easy</u> ; <u>Braunwald's Heart Disease</u> ; <u>Basic Clinical Lab Competencies for Respiratory Care</u> ; <u>Cardiac Catheterization Handbook</u> ; <u>The Echo Manual</u> ; Equipment Manuals; Hospital Guidelines (OIs/SOPs)									
9.1. Cardiovascular Anatomy and Physiology									
9.1.1. Cardiovascular terminology							B	-	3
9.1.2. Structure and function of the heart							B	-	3
9.1.3. Structure and function of the vascular system							B	-	3
9.1.4. Hemodynamics							A	B	3
9.1.5. Regulation of heart and circulation							B	-	3
9.1.6. Electrophysiology of cardiac muscle							B	-	3
9.1.7. Cardiac cycle							B	-	3
9.1.8. Acquired cardiovascular disease							B	-	3
9.1.9. Congenital cardiovascular disease							B	-	3
9.1.10. Dynamics of cardiovascular dysfunction							B	-	3
9.2. Cardiology Procedures									
9.2.1. Perform electrocardiograph tests							2b	3c	3
9.2.2. Interpret electrocardiograph tests									
9.2.2.1. 12-Lead EKGs							2b	3c	1/3
9.2.2.2. Rhythm strip							2b	3c	1/3
9.2.3. Perform exercise (stress) testing							b	3c	3
9.2.4. Perform Holter / event monitoring tests							b	3c	3
9.2.5. Perform echocardiograph tests									
9.2.5.1. 2-D and M-mode							a	1b	3
9.2.5.2. Doppler/color flow							a	1b	3
9.2.5.3. Contrast studies							a	b	3
9.2.5.4. Stress echo							a	b	3
9.2.6. Assist the Physician in Performing Special Procedures									
9.2.6.1. Insertion of arterial catheters							a	2b	3
9.2.6.2. Cardioversion							a	2b	3
9.2.6.3. Transesophageal echo							a	-	3
9.2.6.4. Radionuclide studies							A	-	3
9.2.6.5. Pacemaker interrogation							A	-	3
9.2.6.6. Cardiopulmonary rehabilitation							A	-	3
9.2.6.7. Tilt-table testing							A	-	3
9.3. Cardiac Catheterization Procedures									
9.3.1. Diagnostic studies							A	-	3

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
9.3.2. Therapeutic intervention							A	-	3
10. PULMONARY									
TR: <u>Principles of Anatomy and Physiology</u> ; <u>Egan's Fundamentals of Respiratory Care</u> ; <u>Manual of Pulmonary Function Testing</u> ; <u>Basic Clinical Lab Competencies for Respiratory Care</u> ; American Thoracic Society; American Academy of Sleep Medicine; Equipment Manuals; Hospital Guidelines (OIs/SOPs)									
10.1. Pulmonary Anatomy and Physiology									
10.1.1. Pulmonary terminology							B	-	2
10.1.2. Structure and functional dynamics							B	-	2
10.1.3. Dynamics of gas exchange							B	-	2
10.1.4. Regulation of respiration							B	-	2
10.1.5. Apply math concepts							2b	-	2
10.1.6. Apply gas physics							2b	-	2
10.1.7. Pulmonary pathophysiological processes							B	-	2
10.2. Pulmonary Diagnostic Procedures									
10.2.1. Perform routine spirometry and flow volume loops							2b	3c	2
10.2.2. Perform lung volume tests							2b	3c	2
10.2.3. Perform lung diffusing capacity tests							2b	3c	2
10.2.4. Perform Raw / Gaw by body plethysmograph							2b	3c	2
10.2.5. Perform post-bronchodilator studies							2b	3c	2
10.2.6. Perform maximum voluntary ventilation							2b	3c	2
10.2.7. Perform Max O2 study (VO2 Max)							a	-	2
10.2.8. Perform drug or physiologically induced asthma study							a	2b	2
10.2.9. Perform bedside spirometry, e.g., FVC, FEV1, etc.							2b	3c	2
10.2.10. Perform timed walk test (e.g., 6-minute)							b	3c	2
10.2.11. Perform oxygen titration with exercise							b	3c	2
10.2.12. Exhaled nitric oxide							A	-	2
10.2.13. Perform lung mechanics (e.g., MIP, MEP, compliance, etc.)							2b	3c	2
10.2.14. Perform pulmonary stress testing (e.g., ECG, pulse oximetry, etc.)							a	b	2
10.2.15. Act as an Assistant to the Physician Performing Special Procedures									
10.2.15.1. Bronchoscopic examination							a	3c	1/2
10.2.15.2. Thoracentesis							a	2b	1/2
10.2.15.3. Moderate (conscious) sedation							a	3c	2/3
10.2.16. Perform user maintenance on									
10.2.16.1. Pulmonary function system							b	3c	2
10.2.16.2. Body plethysmograph							b	3c	2
10.2.16.3. Fiberoptic / video bronchoscope							b	3c	1/2
10.2.17. Perform Quality Control procedures for									
10.2.17.1. Gas analyzers							b	3c	2
10.2.17.2. Pulmonary function equipment							b	3c	2
10.3. Sleep Disorders									
10.3.1. Polysomnography							A	-	2
10.3.2. Multiple Sleep Latency Test (MSLT)							A	-	2

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
10.3.3. BiPAP / CPAP Titration							A	-	1/2
10.3.4. Ambulatory sleep diagnostic tests							A	-	2
10.3.5. Actigraphy							A	-	2
10.3.6. Perform Multiple Wakefulness Tests							A	-	2
10.3.7. Apnea monitoring							A	-	1/2
10.3.8. Overnight pulse oximetry							A	-	1/2
10.3.9. Perform user maintenance on sleep lab equipment							-	-	2
11. RESPIRATORY CARE									
TR: <u>Egan's Fundamentals of Respiratory Care</u> ; <u>Mechanical Ventilation</u> ; <u>Basic Clinical Lab Competencies for Respiratory Care</u> ; <u>Comprehensive Perinatal and Pediatric Respiratory Care</u> ; Equipment Manuals; Hospital Guidelines (OIs/SOPs)									
11.1. Respiratory therapy terminology							B	-	1
11.2. Administration of oxygen and mixed gas therapy									
11.2.1 Operate									
11.2.1.1. Pressure regulator							2b	3c	1
11.2.1.2. Flow meters							2b	3c	1
11.2.1.3. Oxygen blenders							2b	3c	1
11.2.1.4. Oxygen analyzers							2b	3c	1
11.2.1.5. Oxygen concentrators							a	b	1
11.2.1.6. Portable liquid oxygen systems							a	b	1
11.2.1.7. Portable oxygen concentrators							a	b	1
11.2.1.8. Air compressors							1b	3c	1
11.2.1.9. He / O2 delivery systems							1b	3c	1
11.2.1.10. Large volume nebulizers							1b	3c	1
11.2.2. Initiate and adjust oxygen therapy delivery devices									
11.2.2.1. Low Flow							1b	3c	1
11.2.2.1.1. Nasal Cannula							1b	3c	1
11.2.2.1.2. Simple Mask							1b	3c	1
11.2.2.1.3. Non-Rebreather							1b	3c	1
11.2.2.1.4. Transtracheal (Scoop)							1b	3c	1
11.2.2.1.5. Oxymask							1b	3c	1
11.2.2.2. High Flow							1b	3c	1
11.2.2.2.1. Venturi Mask							1b	3c	1
11.2.2.2.2. High flow cannula							1b	3c	1
11.2.2.2.3. Large Volume Nebulizer							1b	3c	1
11.2.2.2.3.1. Face tent							1b	3c	1
11.2.2.2.3.2. Aerosol mask							1b	3c	1
11.2.2.2.3.3. Trach collar							1b	3c	1
11.2.2.2.3.4. T-piece							1b	3c	1
11.2.2.2.3.5. Oxygen hoods							1b	3c	1
11.3. Neonatal / Pediatric Respiratory Management									
11.3.1. Care of the neonatal patient							A	C	1
11.3.2. Care of the pediatric patient							A	C	1
11.3.3. Set-up and operate high frequency ventilators							1b	2b	1
11.3.4. Operate neonatal / pediatric ventilators							2b	3c	1

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E			
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials	Phase I	Phase II	
11.3.5. Operate a nitric oxide delivery system							a	2b	1
11.3.6. Incubators							A	-	1
11.4. Mechanical Ventilation									
11.4.1. Operate Mechanical Ventilators, e.g.,									
11.4.1.1. Pneumatic							2b	3c	1
11.4.1.2. Electric							2b	3c	1
11.4.1.3. Microprocessor							2b	3c	1
11.4.1.4. Fluidic							b	-	1
11.4.1.5. Noninvasive positive pressure							2b	3c	1
11.4.1.6. High frequency							2b	3c	1
11.4.2. Measure lung mechanics e.g.,									
11.4.2.1. Plateau pressure							2b	3c	1
11.4.2.2. MIP / MEP							2b	3c	1
11.4.2.3. Compliance							2b	3c	1
11.4.3. Measure auto-PEEP							2b	3c	1
11.4.4. Correct patient - ventilator dyssynchrony using ventilator graphics							2b	3c	1
11.4.5. Initiate and select appropriate settings for high frequency ventilation							2b	3c	1
11.4.6. Initiate and modify weaning procedures							b	3c	1
11.4.7. Transport mechanically ventilated patients (internal or external)							b	3c	1
11.4.8. Mechanical ventilation at altitude							a	-	-
11.4.9. Position patient to minimize hypoxemia							b	2b	1
11.4.10. Operate manual breathing devices							2b	3c	1
11.4.11. Monitor and adjust alarm settings							2b	3c	1
11.4.12. Change patient breathing circuitry							2b	3c	1
11.4.13. Apply disease-specific ventilator protocols (e.g., ARDSNet protocol							a	3c	1
11.4.14. Operate BiPAP / CPAP							a	3c	1
11.4.15. Initiate and adjust mask or nasal BiPAP / CPAP							b	3c	1
11.4.16. Perform lung recruitment maneuver							b	3c	1
11.4.17. Incorporate ventilator-associated pneumonia protocol							b	3c	1
11.5. Perform Quality Control / user maintenance on									
11.5.1. Mechanical ventilators							b	2b	1
11.5.2. Oxygen analyzers							b	2b	1
11.5.3. BiPAP / CPAP equipment							b	2b	1
11.5.4. Non-invasive monitors							b	2b	1
11.5.4.1. Pulse oximeters							b	2b	1
11.5.4.2. Transcutaneous monitors							b	2b	1
11.5.4.3. Capnometers							b	2b	1
11.5.5. Flowmeters							b	2b	1
11.6. Operate									

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E			
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials	Phase I	Phase II	
11.6.1. Wright respirometer							2b	3c	1
11.6.2. Peak flow meter							2b	3c	1
11.6.3. Inspiratory force meter							2b	3c	1
11.6.4. Transcutaneous monitor							b	-	1
11.6.5. Pulse oximeter							2b	3c	1
11.6.6. Capnography							2b	3c	1
11.6.7. Humidification devices							2b	3c	1
11.6.8. Suction equipment							2b	3c	1
11.6.9. Pleural Drainage Device							2b	3c	1
11.7. Initiate, Conduct, or Modify Respiratory Care Techniques in an Emergency Setting									
11.7.1. Initiate emergency treatment for adverse reactions to respiratory medication							b	3c	1
11.7.2. Treat a tension pneumothorax							b	3c	1
11.8. Airway management									
11.8.1. Establish and manage airway									
11.8.1.1. Nasopharyngeal							1b	3c	1
11.8.1.2. Oropharyngeal							1b	3c	1
11.8.1.3. Laryngeal mask							1b	3c	1
11.8.1.4. Esophageal-tracheal / supraglottic airways, e.g., Combitube, King Tube, etc.							1b	3c	1
11.8.1.5. Endotracheal tube							1b	3c	1
11.8.1.6. Tracheostomy tube							b	3c	1
11.8.1.7. Laryngectomy tube							b	2b	1
11.8.1.8. Speaking valves							b	2b	1
11.8.2. Perform intubation procedures							2b	3c	1
11.8.3. Perform extubation procedures							2b	3c	1
11.8.4. Properly position a patient							b	3c	1
11.8.5. Recognize difficult airway							b	3c	1
11.8.6. Treat obstructed / lost airway							b	3c	1
11.8.7. Maintain position of / secure artificial airway							2b	3c	1
11.8.8. Maintain appropriate cuff inflation							2b	3c	1
11.8.9. Maintain adequate humidification							b	3c	1
11.8.10. Reposition or change endotracheal or tracheotomy tube							b	3c	1
11.8.11. Perform tracheotomy care							b	3c	1
11.8.12. Initiating protocols to prevent ventilator associated pneumonia (VAP)	5						b	2b	1
11.9. Perform airway clearance techniques									
11.9.1. Apply suctioning techniques									
11.9.1.1. Artificial airway							b	3c	1
11.9.1.2. Nasopharyngeal							b	3c	1
11.9.1.3. Oropharyngeal							b	3c	1
11.9.2. Give specialized breathing instructions									
11.9.2.1. Inspiratory muscle training techniques							b	3c	1

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
11.9.2.2. Assisted cough							b	3c	1
11.9.2.3. Huff cough							b	3c	1
11.9.2.4. Quad cough							b	3c	1
11.9.3. Perform chest physiotherapy techniques									
11.9.3.1. Chest percussion and postural drainage							b	3c	1
11.9.3.2. Positive expiratory pressure therapy							b	3c	1
11.9.3.3. Percussion vest (HFCWO)							b	-	1
11.9.3.4. Vibration							b	3c	1
11.9.3.5. Intrapulmonary percussive ventilation (IPV)							b	3c	1
11.9.3.6. Insufflation / exsufflation device							b	3c	1
11.9.4. Perform hyperinflation techniques									
11.9.4.1. Intermittent positive pressure breathing treatments							1a	-	1
11.9.4.2. Instruct use of incentive spirometry							2b	3c	1
11.10. Hemodynamic monitoring									
11.10.1. Operate / manipulate									
11.10.1.1. Monitoring devices							b	2b	1/3
11.10.1.2. Pressure transducers							b	2b	1/3
11.10.1.3. Catheters, e.g., arterial, PAP, CVP, PCWP, etc.							b	2b	1/3
11.10.2. Interpret results							b	2b	1/3
11.11. Initiate and conduct patient and family education									
11.11.1. Safety and infection control							a	2b	1/2/3
11.11.2. Home care and equipment							a	2b	1/2/3
11.11.3. Smoking cessation							a	2b	2
11.11.4. Pulmonary rehabilitation							a	2b	2
11.11.5. Disease management									
11.11.5.1. Asthma							a	2b	1
11.11.5.2. COPD							a	2b	1
11.11.5.3. Sleep disorders							a	2b	2
11.12. Recommend Diagnostic Procedures									
11.12.1. Skin testing, e.g., TB or allergy							B	C	2
11.12.2. Blood tests, e.g., hemoglobin, potassium, etc.							B	C	2
11.12.3. Radiographic and other imaging studies							B	C	1
11.12.4. Diagnostic bronchoscopy, e.g., evaluate hemoptysis, atelectasis, etc.							B	C	1/2
11.12.5. Sputum gram stain, culture and sensitivities, e.g., bacteria, viral, etc.							B	C	1/2
11.12.6. Bronchoalveolar lavage (BAL)							B	C	1/2
11.12.7. Pulmonary function testing							B	C	2
11.12.8. Lung mechanics, e.g., compliance, airways resistance, etc.							B	C	1/2
11.12.9. Blood gas analysis, pulse oximetry and transcutaneous monitoring							B	C	1
11.12.10. EKG							B	C	1
11.12.11. Capnography							B	C	1

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
11.12.12. Hemodynamic monitoring, e.g., BP, CVP, PAP, PCWP, etc.							B	C	1
11.12.13. Insertion of monitoring catheters, e.g., arterial							B	C	1
11.12.14. Sleep studies							B	C	2
11.12.15. Thoracentesis, e.g., pleural effusion							B	C	1/2
11.13. Recommend Respiratory Care Plan Modifications									
11.13.1. Treatment termination, e.g., life-threatening adverse event							B	C	1/2
11.13.2. Starting treatment based on patient response							B	C	1/2
11.13.3. Treatment of pneumothorax							B	C	1
11.13.4. Adjustment of fluid balance							A	B	1
11.13.5. Adjustment of electrolyte therapy							A	B	1
11.13.6. Insertion or change of artificial airway							B	C	1
11.13.7. Liberating from mechanical ventilation							B	C	1
11.13.8. Extubation							B	C	1
11.13.9. Discontinuing treatment based on patient response							B	C	1
11.13.10. Patient position							B	C	1
11.13.11. Oxygen therapy							B	C	1
11.13.12. Humidification							B	C	1
11.13.13. Airway clearance							B	C	1
11.13.14. Hyperinflation							B	C	1
11.13.15. Mechanical ventilation parameters and settings							B	C	1
11.13.16. Recommend pharmacologic interventions							B	C	1
11.14. Utilize Evidence-Based Medicine Principles									
11.14.1. Determination of a patient’s pathophysiological state							B	C	1
11.14.2. Recommendations for changes in a therapeutic plan when indicated							B	C	1
11.14.3. Application of evidence-based or clinical practice guidelines, for example, e.g., ARDSNet, NAEPP, GoldCOPD, etc.							B	C	1
12. PHARMACOLOGY									
TR: <u>Egan's Fundamentals of Respiratory Care</u> ; <u>Rau's Respiratory Care Pharmacology</u>									
12.1 Medication classifications									
12.1.1. Respiratory medications									
12.1.1.1. Bronchodilators							A	B	-
12.1.1.2. Anti-inflammatory drugs (cromolyn sodium, corticosteroids, and leukotrienes)							A	B	-
12.1.1.3. Mucolytics and proteolytics (Pulmozyme, Mucomyst)							A	B	-
12.1.1.4. Pulmonary Vasodilators									
12.1.1.4.1. Inhaled NO							A	B	1
12.1.1.4.2. Sildenafil							A	B	-
12.1.1.4.3. Prostacyclin							A	B	-
12.1.1.5. Surfactants							A	B	-

1. Tasks, Knowledge and Technical References	2. Core Tasks	3. Certification for OJT					4. Proficiency Codes		5. QTP Volume
		A	B	C	D	E	Phase I	Phase II	
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials			
12.1.1.6. Antimicrobials, e.g., antibiotics							A	B	-
12.1.2 Sedatives							A	B	-
12.1.3 Analgesics							A	B	-
12.1.4. Neuromuscular blocking agents							A	B	-
12.1.5. Diuretics							A	B	-
12.1.6. Vaccines, e.g., pneumovax, influenza, etc.							A	B	-
12.1.7. Cardiovascular drugs, e.g., ACLS protocol agents							A	B	-
12.1.8. Emergency medications							A	B	-
12.2. Administer respiratory medications									
12.2.1. Metered dose inhalers							b	3c	1
12.2.2. Hand held nebulizers							b	3c	1
12.2.3. Dry powder inhaler							b	3c	1
12.2.4. Endotracheal instillation							b	3c	1
12.2.5. Respimat							b	3c	1
12.2.6. Large medication nebulizer							b	3c	1
12.3. Calculate Drug Dosage Strengths							2b	3c	1/2
12.4. Changes to drug, dosage and/or concentration							b	3c	1/2

Attachment 4

Training Reference Bibliography Commercial and Other Service Publications

REQUIRED REFERENCES:

Gerard J. Tortora, (2013) Principles of Anatomy and Physiology, John Wiley & Sons Publisher, 14th edition or most current

Will Beachey, (2013) Respiratory Care Anatomy and Physiology: Foundations for Clinical Practice, Elsevier Mosby Publishers, 3rd edition or most current

Eugene Braunwald, (2014) Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine, Elsevier Saunders Publishers, 10th edition or most current

Barbara Aehlert, (2013) ECG's Made Easy, Mosby Elsevier Publishers, 5th edition or most current

Jae K. Oh, MD, (2007) The Echo Manual, Lippincott Williams & Wilkins Publishers, 3rd edition or most current

Morton J. Kern, MD, (2016) Cardiac Catheterization Handbook, Elsevier Publishers, 6th edition or most current

Gregg L. Ruppel, (2017) Manual of Pulmonary Function Testing, Elsevier Mosby Publishers, 11th edition or most current

Robert M. Kacmarek, (2013) Egan's Fundamentals of Respiratory Care, Elsevier Mosby Publishers, 10th edition or most current

Gary C. White, (2012) Basic Clinical Lab Competencies for Respiratory Care: An Integrated Approach, Delmar Cengage Learning Publishers, 5th edition or most current

Robert L. Wilkins, (2013) Clinical Assessment in Respiratory Care, Elsevier Mosby Publishers, 7th edition or most current

Neil R. MacIntyre, (2008) Richard D. Branson, Mechanical Ventilation, Elsevier Saunders Publishers, 2nd edition or most current

Douglas S. Gardenhire, (2015) Rau's Respiratory Care Pharmacology, Elsevier Publishers, 9th edition or most current

William J. Malley, (2005) Clinical Blood Gases: Assessment and Intervention, Elsevier Saunders Publishers, 2nd edition or most current

SUPPLEMENTAL REFERENCES:

William F. Armstrong, (2009) Feigenbaum's Echocardiography, Lippincott Williams & Wilkins Publishers, 7th edition or most current

Dean R. Hess, (2015) Respiratory Care: Principles and Practices, Jones & Bartlett Learning Publishers, 3d edition or most current

Kent Whitaker, (2015) Comprehensive Perinatal and Pediatric Respiratory Care, Cengage Learning Publishers, 4th edition or most current

SUGGESTED WEB LINKS:

Accreditation Association for Ambulatory Health Care: <http://www.aaahc.org/>

Accreditation for Cardiovascular Excellence: <http://www.cvexcel.org/About.aspx>

Advanced Cardiovascular Life Support:

http://cpr.heart.org/AHA/ECC/CPRAndECC/Training/HealthcareProfessional/AdvancedCardiovascularLifeSupportACLS/UCM_473186_Advanced-Cardiovascular-Life-Support-ACLS.jsp

Air Force Credentialing Opportunities On-Line: <https://afvec.langley.af.mil/afvec/Public/COOL/>

Air Force E-Publishing: <http://www.e-publishing.af.mil/>

Air Force Medical Service Knowledge Exchange: <https://kx2.afms.mil/Pages/default.aspx>

American Academy of Pediatrics: <https://aap.org/>

American Academy of Sleep Medicine: <http://www.aasmnet.org/accreditation.aspx>

American Association for Respiratory Care: <http://www.aarc.org/>

American Cancer Society: <https://www.cancer.org/>

American College of Allergy, Asthma & Immunology: <https://acaai.org/>

American College of Cardiology: <https://www.acc.org/>

American College of Chest Physicians: <http://www.chestnet.org/>

American Heart Association: <http://www.heart.org/HEARTORG/>

American Lung Association: <http://www.lung.org/>

American Registry for Diagnostic Medical Sonography: <http://www.ardms.org>

American Thoracic Society: <http://www.thoracic.org/>

ARDS Network: <http://www.ardsnet.org/>

Basic Life Support:

http://www.heart.org/HEARTORG/CPRAndECC/HealthcareTraining/BasicLifeSupportBLS/Basic-Life-Support-BLS_UCM_001281_SubHomePage.jsp

Cardiovascular Credentialing International: www.cci-online.org/

Centers for Disease Control and Prevention: <http://www.cdc.gov/>

Centers for Sustainment of Trauma and Readiness Skills (C-STARS):

<https://kx2.afms.mil/kj/kx2/CSTARS/Pages/home.aspx>

Cochrane Collaboration: <http://www.cochrane.org/>

College of American Pathology: <http://www.cap.org/apps/cap.portal>

Commission on Accreditation for Respiratory Care: <http://www.coarc.com/>

Community College of the Air Force: <http://www.airuniversity.af.mil/Barnes/CCAF/>;

Community College of the Air Force Transcripts:
<http://www.airuniversity.af.mil/Barnes/CCAF/Display/Article/803247/>

Comprehensive Medical Readiness Program (CMRP) Kx: <https://kx2.afms.mil/kj/kx9/CMRP/Pages/home.aspx>

Cystic Fibrosis Foundation: <https://www.cff.org/>

Department of Transportation: <http://www.dot.gov/>

Global Initiative for COPD: <http://goldcopd.org/>

The Joint Commission: <http://www.jointcommission.org/>

Joint Trauma System Clinical Practice Guidelines: <http://www.usaisr.amedd.army.mil/cpgs.html>

National Asthma Education and Prevention Program (NAEPP): <https://www.nhlbi.nih.gov/about/org/naepp>

National Asthma Educator Certification Board (NAECB): <https://www.naecb.com/>

National Board for Respiratory Care: <http://www.nbrc.org/Pages/default.aspx>

National Heart, Lung, and Blood Institute (NHLBI): www.nhlbi.nih.gov

Neonatal Resuscitation Program: <http://www2.aap.org/nrp/>

Occupational Safety & Health Administration: <http://www.osha.gov/>

Pediatric Advanced Life Support:
http://cpr.heart.org/AHA/ECC/CPRAndECC/Training/HealthcareProfessional/Pediatric/UCM_476258_PALS.jsp

Society for Critical Care Medicine: <https://sccm.org>

Sustained Medical and Readiness Trained (SMART): <https://kx2.afms.mil/kj/kx2/SMART/Pages/home.aspx>

The Society for Healthcare Epidemiology of America: <http://www.shea-online.org/>

United States Environmental Protection Agency: <http://www.epa.gov/>

United States Food and Drug Administration: <http://www.fda.gov/>

United States Surgeon General: <https://www.surgeongeneral.gov>

SECTION B – COURSE OBJECTIVE LIST (COL)

5. **Course Objectives for Initial Skills Course.** To obtain a copy of a COL, contact:

383 TRS/TRR
Training Development Element
3480 Garden Avenue
Joint Base San Antonio—Fort Sam Houston TX 78234
Phone: DSN 420-5157 or Commercial: (210) 808-5157

6. **Measurement.** Each proficiency coded task or knowledge item taught at the technical school is measured using an objective. An objective is a written instruction for the students so they know what is expected of them to successfully complete training on each task or knowledge item. Each objective is composed of a condition, behavior and a standard. The condition is the setting in which the training takes place (i.e., type of equipment or references, etc.). The behavior is the observable portion of the objective (i.e., perform hand washing, etc.). The standard is the level of performance that is measured to ensure the proficiency code level is attained (e.g., to a 70% or with no instructor assists). All objectives use a progress check (PC) or written test (W) or a combination of both to measure a student's ability (skill) or knowledge.

7. **Standard.** The minimum standard for written examinations is 70%. The standard for performance objectives (skills) vary and are indicated in the objective and the performance checklist. The instructor documents each student's progress during skills evaluations with the use of a checklist. Students must satisfactorily complete all progress checks prior to taking a written test.

8. **Proficiency Level.** Key personnel at the Cardiopulmonary Laboratory Schoolhouse correlated the preponderance of 4H STS task proficiency codes with the CoARC and NBRC teaching matrices. As a result, most task performance must be taught to the "3c" proficiency level. This indicates that students can do all parts of the task and only need a spot check of completed work (competent), and they can identify why and when the tasks must be done and why each step is needed (operating principles).

9. **Initial Medical Readiness Training.** As directed by AFI 41-106, initial medical readiness training is provided within the Expeditionary Medical Readiness Course (EMRC), which is conducted at 59th Training Group, Camp Bullis, TX. The EMRC course occurs during the Cardiopulmonary Apprentice Phase I Course. Completed training is documented on AETC Form 15, *Student Training Report* (or computer-generated student report) for each course attendee. Sustainment Medical Readiness Training for the individual is the responsibility of each medical facility.

10. **Advanced Skills Course.** There is currently no advanced course. This area is reserved.

SECTION C – SUPPORT MATERIALS: The following list of support materials is not all-inclusive; however, it covers the most frequently referenced areas:

11. Qualification Training Packages (QTPs): There are 3 volumes of QTPs that consist of 31 modules available for the 4H0X1 career field. Any additional QTPs will be addressed with MFMs, and will be identified during periodic updates of this CFETP.

11.1. QTPs listed in this section have been developed and are official Air Force publications. All QTPs listed can be obtained through the Air Force E-Publishing website: <http://www.e-publishing.af.mil>.

11.2. QTPs must be used for training on all items identified in an individual's STS as a duty position task that have a designated QTP identified in column 4D of the STS.

11.3. To assist in the standardization of training and to eliminate duplication, the QTPs listed in this section must be used when applicable to an individual's duty position.

11.4. When identified as applicable to an individual's duty position, the frequency that training must be accomplished by using each of the QTPs listed in this section is specified next to each QTP module.

11.5. QTPs have been developed and are listed on the following pages for the following specialties:

Table 11-1. 4H0X1 Qualification Training Packages

TITLE	VOLUME	MODULES
QTP 4H0X1-1, Respiratory Therapy Competencies	1	20
QTP 4H0X1-2, Pulmonary Services Competencies	2	6
QTP 4H0X1-3, Cardiology Services Competencies	3	5

NOTE: CFM approval is required for all QTPs. MAJCOM coordination is required when requesting development of new QTPs. POC for QTP development is the 59th Training Group, 383 TRS/XUFC, JBSA-Fort Sam Houston, TX.

SECTION D – TRAINING COURSE INDEX

12. **Purpose.** This section of the CFETP identifies training courses available for the Cardiopulmonary Laboratory specialty.

12.1. Refer to the ETCA (<https://etca.randolph.af.mil>) for complete information on the courses listed in this section.

Table 12-1. Resident courses applicable to AFSC 4H0X1.

COURSE NUMBER	TITLE	LOCATION
L3ABJ4H031 01XX	Cardiopulmonary Laboratory Apprentice – Phase I	JBSA- Fort Sam Houston, TX
L5ABO4H031 02XX	Cardiopulmonary Laboratory Apprentice – Phase II	JBSA- Fort Sam Houston, TX
JCORP4XXX XXXX	Expeditionary Medical Support (EMEDS)	JBSA-Fort Sam Houston, TX
B3AZYCCAT XXXX	Critical Care Air Transport Team-Basic Course	Wright-Patterson AFB, OH
B4AZYCINCY XXXX	Center for Sustainment of Trauma and Readiness Skills (C-STARS Cincinnati, Advanced CCATT)	University of Cincinnati, Cincinnati, OH
B4AZYBALTR XXXX	C-STARS Baltimore, Advanced Respiratory Therapist	University of Maryland, Baltimore, MD
BRAZYSTLRT XXXX	C-STARS St Louis, Advanced Respiratory Therapist	University of St Louis, St Louis, MO
B4XZYSMART XXXX	Sustained Medical and Readiness Trained, Regional Currency Site (SMART-RCS)	Nellis AFB, NV
J3AIRTXXXX 0B2B	Initial Instructor Methodology Course	JBSA-Lackland, TX

NOTE: If the last characters of a course number are “XXXX”, it is because as a course is revised, the characters will change. Refer to the ETCA for current course numbers.

12.2. **Courses under development and/or revision.** Current Cardiopulmonary Laboratory Phase I and II Courses will be revised with the publication of this CFETP.

SECTION E – MAJCOM UNIQUE REQUIREMENTS

13. Air Reserve Component (ARC)

13.1. **Purpose.** This section applies to all Cardiopulmonary Laboratory personnel assigned to all Air Reserve Component (ARC), further defined as the Air Force Reserve Command (AFRC) and Air National Guard (ANG) medical units. See Table 13-1 below for more detailed information.

13.2. **Entry requirements.** Prospective 4H0X1 ARC candidates must meet all of the Air Force Enlisted Classification Directory (AFECD) education requirements before the start of Phase I. Reference Table 13-1, ARC 4H0X1 Training Matrix, for more detailed information.

13.3. Validate civilian transcript information through the Wing Education and Training Office and with the Air Force Virtual Education Center: https://ccaf.maxwell.af.mil/Apps/LegacyCivCCT/legacy_civcct.asp.

13.4. ANG candidates will:

13.4.1. Submit their education transcripts for review by the Wing Education and Training Office for compilation and submission to the [Cardiopulmonary Schoolhouse organizational email](#) for review before submission for a course seat. Courtesy copy the current ANG CFFM. **All** AFECD education requirements credits must be met before the start of Phase I to satisfy the degree requirements, otherwise course dismissal is permitted.

13.4.2. **ARC CCATT Participation.** To be a member assigned to a CCATT UTC, the 4H0X1 will maintain a CRT/RRT and hold a Respiratory Therapy job that constitutes Full Time (FT) or part Time (PT) employment, at a Level I or II hospital with access to a critical care environment with ventilator management to meet requirements of AFTTP 3-42.51, *Critical Care Air Transport Team (CCATT)*, and maintain required proficiencies. Other job locations will need to be approved by the 4H0X1 Career Field Manager, routed through ARC CFFM.

13.4.3. **ARC EMEDS Participation.** Members assigned to an EMEDS UTC will maintain a job as a CRT/RRT in a job that constitutes Full Time (FT) or part Time (PT) employment, at a Level I or II hospital with access to a critical care environment with ventilator management. Other job locations will need to be approved by the 4H0X1 Career Field Manager, routed through ARC CFFM.

13.4.4. **CERFP/HRF Participation (ANG only).** Members assigned to a CERFP/HRF UTC will maintain a job as a CRT/RRT in a job that constitutes Full Time (FT) or part Time (PT) employment at a Level I or II trauma center with access to a critical care environment with ventilator management. Other job locations will need approval by the 4H0X1 Career Field Manager, routed through ARC CFFM.

NOTE: For the 4H0X1 AFSC, the minimum credential is a Certification in Respiratory Care. However, various states or healthcare systems may require a Registry in Respiratory Care. The ARC member must be aware of and achieve these requirements based on their individual situations.

13.5. ANG ONLY: The following SEI is available for the 4H0X1 career field: SEI Code: 012, Weapons of Mass Destruction Civil Support Team (WMD-CST) member.

13.5.1. Currently, only the National Guard has the WMD-CST mission requirement. No Active Duty or Reserve positions are impacted. If the mission expands to either the Active Duty or Reserve components, the respective component career field managers must be advised and coordinate where and what AFSCs and positions will be impacted.

13.5.2. Guard personnel transferred to the active component will retain the SEI for possible future contingency and/or deployment requirements.

13.5.3. Reference 4H0X1 AFECD for more information.

ARC 4H0X1 Training Matrix

Location	Requirement	Non-Prior Service	Prior Service	Limited Scope 4H0X1 (Note 1, 2)	Notes
Home Station	Candidate possesses CRT or RRT	N/A	N/A	RRT Required	
	UMD position	Required	Required	Required	
	Meets AFECDC entry criteria	Required	Required	Required	
	College transcripts evaluated by Wing Education & Training Office and reviewed by the Cardiopulmonary Schoolhouse at: osd.jbsa.metc.list.cardiopulmonary-owner@mail.mil	Required	Required	Required	
	100% completion of all college courses are required, before start of Phase I course (student will not be allowed to attend without)	Required	Required	Required	Waiver authority is AD AFCFM
	Cleared to attend school (Wing A1/FSS schedule in TEAMS)	Required	Required	N/A	
	All college transcripts submitted to wing FDO/BETM for input to CCAF	Required	Required	Required	
Formal School	Attend Phase I	Required	Required	N/A	
	Attend Phase II (PCS)	Required	Required	N/A	
	Tests for CRT, potentially for RRT	Required	Required	N/A	
	IAW AFRC or NGB/A1DU School day guidance, attend no more than 180 days of Mission Essential Skills Training (MEST) at the same location as Phase II (GOAL IS 90 DAYS). Attendance required immediately following completion of Phase II. The focus of MEST is to accomplish the 5-level tasks and provide orientation to AFSC (San Antonio or approved CFM alternate location).	Required	Required	N/A	
Home Station	Completes 5-Level (AF Form 2096)	Required	Required	Required	
	Completes CCAF	Required	Required	Required	
	Registers with 4H0X1 Phase I School-house for review material and guidance	Required	Required	N/A	
	Limited Scope 4H: Member is CRT/RRT credentialed through a non-Air Force respiratory therapy program, another DoD service program, or a civilian school. The Limited Scope 4H must attend a seasoning site or equivalent, for validation & verification of 5 level CFETP tasks and a review of cardio and pulmonary proficiencies. Estimated duration: 24 days or 2 Annual Tour rotations.	N/A	N/A	Required w/in 24 months of hire	

	Maintain a job as a CRT/RRT	Required	Required	Required	
	UTC assignment and formal training (EMEDS/CCATT/etc.)	As Required	As Required	As Required	IAW AFI 41-106
	AFSC Sustainment Training (TAAs/MOUs), Annual Tour Training, etc.)	As Required	As Required	As Required	Every 12-24 months

Table 13-1
ARC 4H0X1 Training Matrix

NOTE 1: Limited Scope 4H0X1 members are considered any non-Air Force trained Registered Respiratory Therapists who meet the AFECD and waiver criteria. This includes civilian and military trained personnel. See Part I, Section B, items 6.5.-6.8. for process information. Direct Duty Accessions, non-prior service personnel, must attend Basic Military Training. ARC Limited Scope 4H0X1s are Respiratory Therapists that, by definition, meet the 4H0X1 Readiness mission by daily practice in the civilian workforce. However, in the event that ARC Limited Scope 4Hs are called to backfill Active Duty 4H0X1s at a Military Treatment Facilities, the Limited Scope members *may need OJT* in Pulmonary or Cardiology Services, depending on their background.

NOTE 2: In the event that an ARC Limited Scope 4H0X1 is accepted into Active Duty, the member would require OJT in Pulmonary *and* Cardiology Services.

SECTION F – Documentation of Training (Medical Specific)

14. Work Center Training Plan. The purpose of this section is to provide guidelines and examples of proper documentation for the many electronic forms used in training of all enlisted medical personnel. Training documentation helps to assess readiness capability as well as individual strengths and weaknesses. It also aids compliance with internal and external regulating agencies. The enlisted training documentation is performed in the AF Training Record. AFTR is accessible from the ADLS via the AF Portal, and it serves as the single, automated repository for all medical enlisted specialty training. Refer to your Unit Training Manager for the most current policies and guidance on training documentation.

14.1. Master Training Plan (MTP).

14.1.1 An MTP is a reference guide developed for each section that includes all facets of training for individuals assigned. It is 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, and noncommissioned officers in charge an overview of the training process for the duty section. Training managers will implement the MTP into AFTR.

14.1.2. The MTP is an overview of training for the duty section. It should include all information involved in the training process for the duty section. Training will vary from section to section and person to person. However, certain documents will be a standard requirement for all MTPs. They are listed below:

14.1.2.1. Master Task List (MTL). The MTL identifies all day-to-day mission (duty position) requirements, core tasks, local and contingency tasks, and additional duties performed by work center personnel.

14.1.2.2. Current CFETP or AFJQS (if available).

14.1.2.3. If applicable, locally-developed AF Form 797, *Job Qualification Standard Continuation/Command JQS* (accessible in AFTR), and AF Form 1098, *Special Task Certification and Recurring Training*.

14.1.2.4. Unit-Specific Orientation Checklist

14.1.2.5. Job Descriptions/Performance Standards

14.1.2.6. QTPs required to perform peacetime/wartime duties.

14.1.2.7. 4H0X1 Airmen will upload a copy of their degree and credential(s) into their AFTR.

14.1.2.8. *Recommendation:* Each MTP should have an official memorandum from the work center supervisor addressing key issues peculiar to the work center and implementation of the MTP.

Attachment 5
Phase I Class List with CRT Credential Deadlines

Phase I Class Number	CoARC Enrollment Date (Phase I, Day of Training 1)	Class Graduation Date (Calculated)	Must Hold CRT Credential No Later Than *
VARIOUS ^{Note 1}	Before 7-Aug-07	VARIOUS	31-Dec-17 +
VARIOUS ^{Note 2}	7-Aug-07 thru 23-Sep-13	VARIOUS	31-Dec-17
20131104 ^{Note 3}	4-Nov-13	4-Nov-15	31-May-17
20140106	6-Jan-14	6-Jan-16	31-May-17
20140224	24-Feb-14	24-Feb-16	31-May-17
20140428	28-Apr-14	28-Apr-16	31-May-17
20140616	16-Jun-14	16-Jun-16	31-May-17
20140804	4-Aug-14	4-Aug-16	31-May-17
20140922	22-Sep-14	22-Sep-16	31-May-17
20141112	12-Nov-14	11-Nov-16	31-May-17
20150122	22-Jan-15	22-Jan-17	31-Jul-17
20150311	11-Mar-15	11-Mar-17	30-Sep-17
20150506	6-May-15	8-Sep-17	31-Mar-18
20150624	24-Jun-15	24-Oct-17	30-Apr-18
20150819	19-Aug-15	19-Dec-17	30-Jun-18
20151009	9-Oct-15	9-Feb-18	31-Aug-18
20151209	9-Dec-15	9-Apr-18	31-Oct-18
20160208	8-Feb-16	8-Jun-18	31-Dec-18
20160406	6-Apr-16	6-Aug-18	28-Feb-19
20160523	23-May-16	23-Sep-18	31-Mar-19
20160720	20-Jul-16	20-Nov-18	31-May-19
20160908	8-Sep-16	8-Jan-19	31-Jul-19
20161017	17-Oct-16	17-Feb-19	31-Aug-19
20161205	5-Dec-16	5-Apr-19	31-Oct-19
20170206	6-Feb-17	6-Jun-19	31-Dec-19
20170403	3-Apr-17	3-Aug-19	29-Feb-20
20170522	22-May-17	22-Sep-19	31-Mar-20
20170717	17-Jul-17	17-Nov-19	31-May-20
20170905	5-Sep-17	5-Jan-20	31-Jul-20

Note 1: Entry and Certificate-Level Courses starting before 7 Aug 07.

Note 2: 7 Aug 07 was the start of the Advanced-Level Course.

Note 3: Start of current Advanced-Level Course developed from Feb 13 4H CFETP and Oct 13 AFECDC.

* 4H Airmen who attended the Advanced-Level Course and have already graduated (possess degree) must challenge the CRT within three months of the date of the policy signed by SG1-8 (17 Feb 17), regardless of class start date.

+ For 4H Airmen with an approved separation or retirement date as of the CRT NLT date, completion of the CRT is optional but highly encouraged.