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AIR COMBAT COMMAND**

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Cyberspace

**AIR FORCE CYBERSPACE DEFENSE (ACD) -
CYBERCREW TRAINING**

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SUMMARY OF CHANGES

This publication has been substantially revised and needs to be completely reviewed. Major changes include but are not limited to: Modification of **Table 5.1** to add the Cyberspace Defense Operator (CDO) Cybercrew position and replaced the Threat Hunt Analysis Cybercrew position with the Cyber Threat Intelligence Analyst (CTIA) position. Updated **Attachment 2** and the associated **Table A2.1** to add Amazon Web Services (AWS) Certified Cloud Practitioner Certification to the Cloud Network Security Engineer (CNSE) completion criteria. Changes also include document wide waiver authority revisions and publication reference updates.

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Chapter 1

GENERAL GUIDANCE

1.1. Training Objectives. This instruction prescribes basic policy and guidance for training Air Force Cyberspace Defense (ACD) crewmembers according to ACCI 17-202V1, *Cybercrew Training*.

1.1.1. The overall objective of the ACD training program is to develop and maintain a high state of readiness for the immediate and effective employment across a full range of military operations. Mission readiness and effective employment are achieved through the development and mastery of core competencies for ACD crewmembers.

1.1.2. The secondary objective is to standardize ACD training requirements into a single source document.

1.2. References, Abbreviations, Acronyms, and Terms. See Attachment 1.

1.2.1. For the purposes of this instruction, “certification” denotes a commander’s action, whereas “qualification” denotes a formal Standardization and Evaluation (Stan/Eval).

1.2.2. Keywords explained.

1.2.2.1. “Will” or “must” indicates a mandatory requirement.

1.2.2.2. “Should” indicates a preferred, but not mandatory, method of accomplishment.

1.2.2.3. “May” indicates an acceptable or suggested means of accomplishment.

1.2.2.4. “Note” indicates operating procedures, techniques, etc., which are considered essential to emphasize.

1.3. Roles and Responsibilities:

1.3.1. ACC will:

1.3.1.1. Establish and standardize total force crewmember training requirements in coordination with the National Guard Bureau and Air Force Reserve Command across the Future Years Defense Program (FYDP).

1.3.1.2. Manage all training course requirements and training tasks for the ACD weapon system. See AFI 16-1007, *Management of Air Force Operational Training Systems*, for information on training system management.

1.3.1.3. Chair Training Planning Team (TPT) conferences IAW AFI 16-1007. Host annual and quarterly, in-person and/or virtual, weapon system-specific meetings.

1.3.1.4. Publish ACD Ready Cybercrew Program (RCP) Tasking Memorandum (RTM).

1.3.2. Wings and groups will:

1.3.2.1. Develop programs to ensure training objectives are met. The top training priority should be to train all designated crewmembers to Mission Ready (MR) status. Assist subordinate squadrons in management of training programs, ensure programs meet unit needs, and provide necessary staff support. ACC wing/groups will assist Air Reserve

Component (ARC) unit training programs as required or requested IAW applicable unit support programs, memorandums of agreement, or memorandums of understanding. **(T-2)**

1.3.2.2. Develop additional training requirements and/or programs as necessary to meet unit mission requirements. Units must include these requirements in local training procedures. **(T-2)**

1.3.3. Squadrons (SQ). The SQ Commander's (SQ/CC's) top training priority should be to train all designated crewmembers to MR or Basic Mission Capable (BMC). SQs will:

1.3.3.1. Maintain training forms, course documentation (syllabi/lesson plans) and unit certification/qualification training documents for all SQ personnel and personnel attached to the SQ for cyberspace operations **(T-3)**

1.3.3.2. Maintain the letter of certifications (i.e., letter of Xs) summarizing crewmember certifications; this letter will be signed by the, SQ/CC or SQ Director of Operations (SQ/DO) and may be maintained via electronic storage. **(T-3)**

1.3.3.3. Ensure review of training and evaluation records of newly assigned crewmembers and those completing formal training to determine the training required for them to achieve BMC or MR status and to ensure provisions of this volume are met. **(T-3)**

1.3.3.4. Ensure RCP sorties are oriented towards maintaining mission ready proficiency and tactical employment. Provide guidance to ensure only effective RCP sorties, events and tasks are logged. **(T-3)**

1.3.3.5. Determine sorties and events in which individual MR crewmembers will maintain MR certification/qualification. **(T-3)**

1.3.3.6. Determine sorties and events in which individual BMC crewmembers will maintain basic certification/qualification. **(T-3)**

1.3.3.7. Determine how many and which crewmembers will carry special certifications (e.g., mission commander) and qualifications (e.g., instructor). **(T-3)**

1.3.3.8. Assist the wing or group in the development of the unit training programs to include training objectives. **(T-3)**

1.3.3.9. Ensure instructors and crewmembers participate only in sorties, events, and tasks for which they are qualified/certified and adequately prepared, trained, proficient, and current. **(T-3)**

1.3.3.10. Ensure quality of training is monitored, identify training deficiencies, and advise SQ/CC and/or certifying official of additional training needs. **(T-3)**

1.3.4. Instructors will:

1.3.4.1. Be MR qualified in a crew position. **(T-3)**

1.3.4.2. Be appointed as an instructor, complete instructor certification upgrade training and receive an instructor qualification evaluation from Stan/Eval. **(T-3)**

1.3.4.3. Be responsible for monitoring and completing all operational training requirements. **(T-3)**

1.3.4.4. Ensure they participate only in operational activities for which they are qualified/certified, current, and proficient. **(T-2)**

1.3.4.5. Use coordinated and approved lesson plans to ensure standardized and accurate instruction is accomplished for all classroom presentations. Lesson plans are used in conjunction with other training program materials to ensure learning objectives are properly stated and addressed in a logical sequence. **(T-3)**

1.3.4.6. Facilitate procedural and training improvements within SQ Operations Training, Weapons and Tactics, and Stan/Eval functions.

1.3.4.7. Execute unit-level crewmember certifications training described in this instruction. **(T-3)**

1.3.5. Crewmembers will:

1.3.5.1. Be responsible for monitoring and completing all training requirements..

1.3.5.2. Ensure they participate only in operational activities for which they are qualified/certified, current, and prepared. **(T-2)**

1.4. Waiver Authority:

1.4.1. Waiver authority for non-tiered paragraphs remain with ACC/Director of Ops (A3) unless otherwise specified.

1.4.2. Waiver authority for this volume is Air Combat Command Directorate of Cyberspace and Information Dominance (ACC/A6). Submit requests for waivers IAW DAFMAN 90-161, *Publishing Processes and Procedures*. **(T-2)**

1.4.3. With Air Combat Command Cyberspace Transformation Division (ACC/A6O) approval, waiver authority for all requirements of the RTM is the Cyberspace Operations Group Commander (COG/CC) except for lookback (i.e., sortie rate), which resides with 16th Air Force Numbered Air Force Standards and Evaluations (16 AF A37/8). Additional guidance may be provided in the responding waiver approval memo. Unless specifically noted otherwise in the appropriate section, and also with ACC/A6O approval, the COG/CC may adjust individual requirements in **Chapter 4** and **Chapter 5**, on a case-by-case basis, to accommodate variations in crewmember experience and performance. **(T-2)**

1.4.4. Formal School Training and Prerequisites. Any planned exception to a formal course syllabus (or prerequisite) requires a syllabus waiver. Submit waiver requests through ACC/A6O to the waiver authority listed in the course syllabus. If required for units' designated mission, events waived or not accomplished at the formal school will be accomplished in-unit before assigning MR status. **(T-2)**

1.4.5. In-Unit IQT Waiver. ACC/A6O is approval/waiver authority for in-unit training to include syllabus and prerequisite waivers. Before approval, review the appropriate syllabus and consider availability of formal instruction and requirements. All in-unit training will utilize formal courseware in accordance with ACCI 17-202V1. ACC/A6O will coordinate with the Formal Training Unit (FTU) to arrange courseware delivery to the unit for in-unit training. **(T-2)**

1.4.5.1. Waivers will be routed through the chain of command (e.g. COG, CW, Numbered Air Force (NAF)) to ACC/A6O. **(T-2)**

1.4.5.2. Waivers for all situations will be considered on a case-by-case basis and approval authority remains with ACC/A6O. **(T-2)**

1.4.5.3. Units subordinate to a NAF will forward requests through 16 AF/A37/8 (or equivalent) to ACC/A6O. **(T-2)**

1.5. Training. Crewmember training is designed to progress a crewmember from Initial Qualification Training (IQT), through Mission Qualification Training (MQT), to Continuation Training (CT). Other types of training in the ACD weapon system include Requalification Training (RT), Upgrade Training, Special Mission Training (SMT) and Instructor Upgrade Training. Refer to ACCI 17-202V1 for definitions of the training types.

1.5.1. RCP is the formal CT program that provides the baseline for SQs to use in developing a realistic training program to meet all Designed Operational Capability (DOC) statement tasked requirements as well as specific NAF mission prioritization. Upon completion of IQT and MQT, crewmembers will have received training in all the basic mission-sets of the unit. After MQT completion, and qualification evaluation, crewmembers will then be designated as MR or BMC and maintain the appropriate level of proficiency and currency per the RCP tasking memorandum.

1.5.2. MR is a status that denotes a member who has satisfactorily completed IQT and MQT, Stan/Eval evaluation, and maintains certification, currency and proficiency in the command or unit operational mission. MR crewmembers will maintain currencies that affect MR status, accomplish all core designated training (missions and events), and all mission related training. Failure to complete required MR training or maintain currencies shall result in regression to non-MR (NMR) status unless waived by the approval authority. **(T-2)**

1.5.3. BMC is a status that denotes a crewmember who satisfactorily completed IQT, MQT and Stan/Eval evaluation, and maintains certification, currency and proficiency in the command or unit operational mission. BMC qualified personnel will always perform crew duty with an individual MR qualified in the same duty position. The cybercrew member must be able to attain MR status to meet operational taskings as specified in the applicable weapon system volumes **(T-2)**

1.5.3.1. Crewmembers with the primary job of performing wing supervision or staff functions that directly support ACD cyber operations (e.g., NAF staff, wing staff, Operational Support Squadron (OSS) personnel) must maintain BMC status as a minimum.

1.5.3.2. Persons filling a BMC position must be able to meet MR currency requirements within 30 days (90 days for ARC members). **(T-3)**

1.5.3.3. BMC crewmembers accomplish all mission related training designated by the RTM and SQ/CC. **(T-3)**

1.5.3.4. BMC qualified personnel that do not complete required RTM requirements will result in regression to non-BMC (N-BMC) status. While N-BMC, SQ/CC will determine missions the crewmembers may perform and the supervision required. **(T-3)**

1.6. Training Concepts and Policies:

1.6.1. Units will design training programs IAW DAFH 36-2675, *Information for Designers of Instructional Systems*, and DAFI 36-2670, *Total Force Development*, to achieve the highest degree of readiness consistent with safety and resource availability. Training must balance the

need for realism against the expected threat, crew capabilities, and safety. This volume provides training guidelines and policies for use with operational procedures specified in applicable operational publications. (T-3)

1.6.2. Design training to achieve mission capability in squadron-tasked roles, maintain proficiency, and enhance mission accomplishment and safety. RCP training missions should emphasize either basic combat skills, or scenarios reflecting procedures and operations based on employment plans, location, current intelligence, and opposition capabilities. Use of procedures and actions applicable to mission scenarios are desired. (T-3)

1.7. Ready Cybercrew Program (RCP) Guidance and Management:

1.7.1. The RCP training cycle coincides with the fiscal year and is executed IAW the RTM. Each RCP status is defined by lookback/sortie (currency) and mission/events (proficiency) which ACD assigns each mission/event with a frequency amount of days required for the operator to accomplish the mission/event. (T-2)

1.7.2. The total number of RCP missions for MR/BMC is the primary factor for maintaining an individual's CT status. Failure to accomplish all training requirements may lead to a SQ/CC directed regression for the individual, IAW HHQ guidance. (T-2)

1.7.3. An effective RCP mission requires accomplishing a tactical mission or training mission, completion of the RCP mission/events and as determined by the SQ/CC. (T-2)

1.7.4. Progression from BMC to MR requires:

1.7.4.1. A lookback at the MR lookback sorties (see RTM). (T-2)

1.7.4.2. Certification/qualification in all core missions and events required at MR. (T-2)

1.7.4.3. Operations Training and the BMC operator will plan and schedule to complete the prorated number of mission/event RTM requirements remaining for MR by the end of the training cycle. Refer to Proration of Training, [paragraph 4.9](#). (T-2)

1.7.4.4. Completion of mission-related training, to include a current certification/qualification as applicable to the assigned unit's DOC statement. (T-2)

1.7.5. End of cycle training requirements are based on the crewmember's experience level, based on the last day of the current training cycle. (T-2)

1.8. Training Mission Program Development:

1.8.1. RTM MR or BMC mission and event requirements apply to all MR and BMC crewmembers as well as those carrying special mission qualifications (see [Chapter 4](#)). The standard mission requirements listed in the RTM establish the minimum number of missions per training cycle for MR and BMC status. The RTM takes precedence over this volume and may contain updated requirements, missions, events, or tasks not yet incorporated into this manual. The RTM applies to all ACD crewmembers. (T-2)

1.9. Training Records and Reports:

1.9.1. Units will maintain crewmember records for individual training IAW ACCI 17-202V1, and any supplements to these publications.

1.9.2. Track the following information for all crewmembers and document into the individual training folders (as applicable):

1.9.2.1. Mission-related training (e.g., weapons and tactics, risk management, cyber intelligence). **(T-2)**

1.9.2.2. Requirements and accomplishment of individual sorties, mission types, and events cumulatively for the training cycle. **(T-2)**

1.9.2.3. RCP sortie/lookback requirements and accomplishment using one-month, three-month and six-month running totals for lookback commensurate with CT status (MR or BMC) for the crewmember's currency. **(T-2)**

1.9.2.3.1. One-Month Sortie Lookback: Total individual RCP sorties tracked for a 30-day time period. This lookback is used to assess individual progress in achieving the minimum total sorties and events required for the 12-month training cycle.

1.9.2.3.2. Three-Month Sortie Lookback: Total individual RCP sorties tracked for a 90-day time period. This lookback is used to assess individual progress in achieving the minimum total sorties and events required for the 12-month training cycle.

1.10. Crewmember Utilization Policy:

1.10.1. The overall objective is for crewmembers to perform mission-related duties. Supervisors may assign crewmembers to valid, short-term tasks (e.g., escort officer, operational review board (ORB)), and will weigh the factors involved, such as level of crewmember tasking, proficiency, currency, and experience. For inexperienced crewmembers in the first year of their initial operational assignment, supervisors should limit non-crewmember duties to those related to unit mission activities. **(T-3)**

1.10.2. Use evaluators and weapons and tactics personnel as instructors for any phase of training to capitalize on their expertise and experience. If an evaluator is the trainee's primary or recommending instructor, the same evaluator shall not administer the associated evaluation. **(T-2)**

1.11. Sortie Allocation and Unit Manpower Guidance:

1.11.1. In general, inexperienced crewmembers should receive priority over experienced crewmembers.

1.11.2. Units should provide assigned crewmembers adequate resources to maintain minimum training requirements. The RTM defines the minimum sortie lookback requirements for crewmembers per training cycle. **(T-3)**

1.12. Training on Operational Missions. Unless specifically prohibited or restricted by weapons system operating procedures, specific theater Operations Order (OPORD), or specific HHQ guidance, the COG/CC exercising operational control may approve upgrade, certification/qualification, or special mission training/qualification training on operational missions. In order to maximize efficient utilization of training resources, units will take maximum advantage of opportunities to conduct appropriate CT items that may be conveniently suited to concurrent operational mission segments. **(T-3)**

1.13. In-Unit Training Time Limitations:

1.13.1. Comply with the time limitations in **Table 1.1** Crewmembers entered in an in-unit training program leading to qualification, requalification, or certification will be dedicated to that training program on a full-time basis. **(T-3)**

1.13.2. If a member is projected to exceed the training cycle, units will notify the COG/CC (or equivalent) in writing before the crewmember exceeds upgrade training time limits in **Table 1.1** SQ/CCs may extend listed training times up to 60 days (120 days ARC) provided appropriate justification is documented in the crewmember's training folder. Include training difficulty, unit corrective action to resolve and prevent recurrence, and estimated completion date. **(T-3)**

Table 1.1. In-Unit Training Time Limitations (Calendar Days).

Training	Time	Notes
MQT	90	1
RQT	45	1
Mission Certification	30	1
Instructor Upgrade	45	1
Incident Responder (IR) Upgrade	60	1
SMT	60	1
BMC to MR	30	2
Notes:		
1. 180 days for non-full time ARC members		
2. 90 days for non-full time ARC members		

1.14. Periodic and End-of-Cycle Training Reports.

1.14.1. Refer to RTM for reporting requirements and timelines. **(T-2)**

Chapter 2

INITIAL QUALIFICATION TRAINING

2.1. General. This chapter outlines ACD IQT requirements for all crewmembers.

2.2. Formal Training. ACD IQT includes training normally conducted during FTU formal syllabus courses.

2.3. Local Training. In circumstances when FTU IQT is not available within a reasonable time period, and an appropriate waiver has been issued IAW [paragraph 1.4.4](#) of this manual, local IQT may be performed at the unit IAW the provisions of this chapter. When authorized, local IQT will be conducted using appropriate FTU course syllabi and requirements. When local IQT is authorized, the gaining unit assumes responsibility for providing this training. **(T-2)**

2.3.1. Requests to conduct local IQT will include the following:

2.3.1.1. Justification for the local training in lieu of FTU IQT. **(T-2)**

2.3.1.2. Summary of individual's mission related experience, to include dates, and current MR/BMC status. **(T-2)**

2.3.1.3. Date training will begin and expected completion date. **(T-2)**

2.3.1.4. Requested exceptions to FTU IQT syllabus, with rationale. **(T-2)**

2.4. Mission-Related Training. Mission-related training may be tailored to the individual's background and experience. Current and available reference materials, such as Air Force Tactics, Techniques, and Procedures (AFTTP) 3-1.ADC (*U Tactical Employment Air Force Cyber Defense (ACD)*), other applicable AFTTP 3-1s and 3-3s, unit guides, and other available training material and programs, will be used as supporting materials to the maximum extent possible. **(T-3)**

2.4.1. Mission sequence and prerequisites will be IAW the appropriate FTU IQT syllabus (unless waived). **(T-2)**

2.4.2. Training will be completed within the time specified by the syllabus. Failure to complete within the specified time limit requires notification through channels to COG/CC with crewmember's name, rank, reason for delay, planned actions, and estimated completion date. **(T-2)**

2.4.3. Crewmembers in IQT will train under the supervision of an instructor as annotated in the FTU IQT syllabus until completing the initial qualification evaluation. **(T-2)**

2.4.4. The FTU IQT syllabus mission objectives and tasks are the minimum requirements. However, additional training events, based on student proficiency and background, or due to student non-progression is available within the constraints of the formal course syllabus and may be added at SQ/CC discretion.

2.5. IQT for Senior Officers:

2.5.1. All senior officer training (Colonel selects and above) will be conducted at the FTUs unless waived by the ACC/A6. **(T-2)**

2.5.2. Senior officers must meet course entry prerequisites and will complete all syllabus requirements unless waived IAW ACCI 17-202V1. **(T-2)**

2.5.3. If senior officers are trained at their assigned base, they will be considered in a formal training status for the duration of the course. Their duties will be delegated to appropriate alternates until training is completed. **(T-2)**

Chapter 3

MISSION QUALIFICATION TRAINING

3.1. General. MQT is a unit-developed training program that upgrades IQT-complete crewmembers to BMC or MR status to accomplish the unit DOC statement missions. Guidance in this chapter, which represents the minimum, is provided to assist SQ/CCs in developing their MQT program, which must have COG/CC approval prior to use. Squadrons may further tailor their program for individual crewmembers, based on current qualifications (e.g., Instructor), certifications (e.g., mission commander (MC), Evaluator), experience, currency, documented performance, and formal training. Squadrons may use applicable portions of MQT to create a recertification/requalification program for crewmembers that regressed from MR to BMC status. **(T-3)**

3.1.1. MQT will be completed within 90 calendar days (180 days for ARC) starting from the day after IQT completion or the crewmember's first duty day in the gaining unit. If the crewmember elects to take leave prior to entering MQT, the timing will begin after leave termination. Training is complete upon successful completion of qualification evaluation and SQ/CC certification of MR or BMC status. Notify COG/CC either if training exceeds the 90-day time period or there is a delay beginning MQT (e.g., due to security clearance) that exceeds 30 days (180 days for ARC).

3.2. Mission-Related Training:

3.2.1. Units will develop training materials and objectives addressing areas pertinent to the mission as determined by the SQ/CC. Training accomplished during IQT may be credited towards this requirement. **(T-3)**

3.2.2. Mission-related training may be tailored to the individual's background and experience or particular local conditions. Current and available reference materials, such as AFTTP 3-1.ACD, other applicable AFTTP 3-1s and 3-3s, unit guides, and other available training material and programs, will be used as supporting materials to the maximum extent possible. **(T-3)**

Table 3.1. Mission-Related Training Requirements.

Code	Event	Crew Position	Notes
GTR001	Unit Indoctrination Training	All	1
GTR002	Weapons and Tactics	All	1
GTR003	Risk Management	All	1, 2
GTR007	Cyber Intel Training	All	1
Notes:			
Accomplish upon arrival after each permanent change of station. See Attachment 2 for event description.			
Previously trained crewmembers transferring between units need to re-accomplish this event if they have lost currency or as determined by the SQ/CC.			

3.2.3. Mission-related training will be built to support the mission and concept of operations of the individual squadron; incorporate appropriate portions of AFTTP 3-1.ACD; and other mission-related documents. **(T-3)**

3.2.4. Mission-related training will also capture the information/performance tasks not able to be taught in IQT or at the appropriate proficiency level due to lack of IQT resources (e.g. simulator, training environment, geographic requirements, weapons and tactics, risk management and cyber intel). **(T-3)**

3.3. Mission Training.

3.3.1. At SQ/CC discretion, applicable missions will be used to build the local MQT program. MQT programs should use the NAF approved Master Training Task Listing (MTTL) and profiles typical of squadron missions.

3.3.2. Supervision. A squadron instructor is required for all training missions unless specified otherwise. **(T-3)**

3.3.3. The minimum sorties required in a local MQT program will be IAW the MQT course syllabus (not required if portions of the MQT program are used to recertify crewmembers that regress from MR to BMC). **(T-3)**

3.3.4. Mission sequence and prerequisites will be IAW the appropriate unit MQT course syllabus (unless waived). **(T-3)**

3.3.5. Mission Objectives: Be familiar with local area requirements and procedures. Specific Mission Tasks: local area familiarization, emergency procedures, other tasks determined by the unit. **(T-3)**

3.3.6. Individual events may be accomplished anytime during MQT, however all events will be accomplished prior to SQ/CC certification of MR or BMC status. **(T-3)**

3.3.7. Training will be completed within the time specified by the syllabus. Failure to complete within the specified time limit requires notification through channels to the COG/CC with the crewmember's name, rank, reason for delay, planned actions, and estimated completion date.

3.3.8. Crewmembers in MQT will train under the appropriate supervision as annotated in the syllabus until completing the mission (MSN) evaluation. **(T-3)**

3.3.9. MQT syllabus mission objectives and tasks are minimum requirements for MQT. However, additional training events, based on student proficiency and background, or due to student non-progression is available within the constraints of the course syllabus and may be added at SQ/CC discretion. **(T-3)**

3.4. MQT for Senior Officers:

3.4.1. All senior officer training (colonel selects and above) will be conducted at the unit. **(T-2)**

3.4.2. Senior officers must meet course entry prerequisites and will complete all syllabus requirements unless waived IAW ACCI 17-202V1. **(T-2)**

3.4.3. Senior officers will be considered in a formal training status for the duration of the course. Their duties will be delegated to appropriate alternates until training is completed. **(T-2)**

3.5. Difference Training.

3.5.1. Difference Training is typically accomplished after Type 1 Training is completed and/or directed by ACC/A6O. Group Stan/Eval will coordinate ACD standardized efforts and direct Training and Stan/Eval timelines on a case-by-case basis, as appropriate. With significant hardware, software or procedural changes that impact unit mission requirements, difference training will be given to the crew force to provide immediate training and to fill the operator knowledge/performance gap. **(T-2)**

3.5.1.1. Difference Training does not disqualify members from MR status. However, all untrained members cannot perform tasks associated with the new guidance until trained, unless under the supervision of an instructor/evaluator. **(T-2)**

3.5.1.2. After initial cadre instructors conduct difference training, Squadron Stan/Eval will administer Spot Evaluations as determined by Group Stan/Eval. The Spot Evaluations are intended to validate the training, procedures, guidance and operator comprehension from the difference training. **(T-2)**

3.5.1.3. All training will be documented onto the approved MAJCOM forms and held in the individual training folders. **(T-2)**

3.5.1.4. New training materials and procedures should be reviewed immediately following the initial difference training session and updated for standardization throughout ACD; then updated a second time by the end of the following quarter. **(T-2)**

3.5.1.5. Group Stan/Eval will lead standardization efforts for development into the appropriate training areas (i.e., ACD IQT, MQT, CT).

3.5.2. Type-1 Training Roles and Responsibilities for ACD Difference Training.

3.5.2.1. MAJCOM: ACC/A6O (ACD Functional Area Manager (FAM)) will:

3.5.2.1.1. Serve as the primary training interface between the program management office (PMO) and assigned cyber operations units.

3.5.2.1.2. Chairs the training planning team (TPT) to identify new/ongoing training requirements.

3.5.2.1.3. Advocates for resources from IQT through continuation training, and will provide input, as requested, to the MAJCOM Functional Managers (MFMs) regarding initial skills training (IST) as appropriate.

3.5.2.1.4. The ACD FAM, through the Weapon System Team (WST) directs the PMO to:

3.5.2.1.4.1. Executes life-cycle-specific training requirements.

3.5.2.1.4.2. Coordinates with the MAJCOM ACD FAM to identify initial cadre for Type-1 training.

3.5.2.1.4.3. Deliver training to initial cadre.

3.5.2.1.4.4. Coordinates Type-1 training deliverables to accompany the fielding of new or modification to existing Information Technology (IT) material to ensure the initial cadre can properly develop and sustain training. Actual deliverables will

vary by fielding capability as required. A generic list follows:

3.5.2.1.4.4.1. References (e.g., commercial-off-the-shelf manuals/products, TOs, referenced TOs/Time Compliance TOs, commercial terms and definitions list).

3.5.2.1.4.4.2. Product training (e.g., classroom training, computer based training, commercial training, training credits)

3.5.2.1.4.4.3. Training pre-requisites (e.g., licenses, software, hardware, labs, scenarios, elevated privileges, access/permissions lists)

3.5.2.1.4.4.4. Task list (e.g., knowledge task, performance task, proficiency level, references for each task).

3.5.2.1.4.4.5. Criterion objectives (addresses the condition (situation under which a student is expected to demonstrate a behavior); behavior (an observable, measurable skill, knowledge, or attitude); and standard (the criteria for acceptable performance by the student)).

3.5.2.1.4.4.6. Lesson plans/courseware.

3.5.2.1.4.4.7. Performance practice scenarios (e.g., labs, exercises)

3.5.2.1.4.4.8. Train initial cadre how to teach the materials (e.g., train the trainer, instructor guide, lesson plan review).

3.5.2.1.4.4.9. Equipment and software, to include licensing, required to teach the new capability at the designated FTU will be provided and sustained by the associated PMO.

3.5.2.1.4.4.10. Coordinate post-training surveys through ACC/A6O and the 688th Cyberspace Wing (688 CW) Training Office.

3.5.2.1.4.4.11. Coordinate post-training surveys through ACC/A6O and the 688 CW Training Office.

3.5.2.2. 688 CW Training Office and Stan/Eval Office, and Operational Units will:

3.5.2.2.1. Participate in training Initial Planning Teams (IPT) to help identify the affected crew positions and establish the appropriate training for each crew position. This will ensure the PMO delivers adequate Type-1 training.

3.5.2.2.2. Provide pre-vetted names to be designated as Initial Cadre for the capability. The operational units and wing training office will take care to nominate appropriate and adequate numbers of personnel who have reasonable retainability and do not have outbound assignments. Additionally, at least a portion of the initial cadre need to be qualified instructors to facilitate the development of MQT and train the remainder of the crew members.

3.5.2.2.3. Ensure all Initial Cadre personnel complete post-training surveys to ensure the training delivered was adequate.

3.5.2.2.4. Ensure that difference MQT is developed to enable all of the crew members to be trained on the new capability organically.

3.5.2.2.5. Ensure that the new capability tasks are incorporated into the MTTLs, and when appropriate, nominate IQT updates during the next Syllabus Review Board (SRB).

3.5.2.2.6. Ensure initial cadre or other qualified personnel participate in the TO Validation/Verification process when requested.

3.5.2.3. Initial Cadre will:

3.5.2.3.1. Upon identification as Initial Cadre, actively participate in IPTs, especially Training IPTs, to ensure the training being developed is appropriate and adequate for the weapon system / crew position.

3.5.2.3.2. Provide timely responses to the PMO and/or vendor for pre-course verifications (e.g., provide information as requested so vendor can establish accounts if applicable) or technical tests e.g., ensure students can access the content or venue if provided via distance learning).

3.5.2.3.3. Make every effort to attend training on the dates selected. Any course date changes or changes to Initial Cadre must be processed through the 688 CW Training Office and ACC/A6O first. Do not go direct to the PMO or the vendor.

3.5.2.3.4. Upon completion of Type-1 training, provide feedback via the course survey (100% response).

3.5.2.3.5. Work with 688 CW Wing Training office to update the MTTLs and develop training to incorporate new capability into MQT.

3.5.3. ACD Type-1 Training Process, step-by-step.

3.5.3.1. ACC/A6O, 688 CW Training and Stan/Eval Offices, and operational squadron designated SMEs will participate in the acquisition process with the PMO and vendor.

3.5.3.1.1. 688 CW Training Office will select individuals for IPT participation via communications with squadrons.

3.5.3.1.2. Ensure all weapon systems are considered during the requirements process (i.e., what other units will utilize/operate this capability and potentially need training?)

3.5.3.1.3. To the max extent possible identify individuals who are competent/proficient to go through the full lifecycle of the training (e.g., request for proposal (RFP) package reviews, source selection, IPT participation, training requirements development, Type-1 training attendance, TO review, follow-on training development).

3.5.3.2. The PMO notifies ACC/A6O and coordinates on Type-1 Training to include dates/times/locations and any recommended prerequisites.

3.5.3.3. ACC/A6O with the 688 CW Training Office to determine which weapon system operators require this training. To facilitate this, ACC/A6O drafts memo outlining prerequisites for potential attendees (initial training cadre), responsibilities (e.g., development of follow-on training), and sends out Task Management Tool (TMT) tasker that includes the initial feedback survey (provided by PMO) to request attendees.

3.5.3.4. 688 CW Training and Stan/Eval Offices vet the unit-nominated initial cadre to attend training and provides names to ACC/A6O via TMT; ACC/A6O forwards the names to the PMO via email. Key Concerns: Do the attendees have the required experience, training or qualifications to participate and provide feedback on the CREATION of training

3.5.3.5. The PMO confirms the logistical requirements.

3.5.3.6. Initial Cadre attend Type-1 training and produce required feedback to the PMO.

3.5.3.7. The 688 CW and initial cadre review preliminary TO before publication (trigger is 65% draft) with the goal to do this immediately following the Type-1 Training.

3.5.3.8. ACC/A6O verifies who successfully completed training and drafts Initial Training Cadre Letter documenting the training that was received, who received it, and reiterating the responsibilities of those who received the training to develop training sufficient to qualify/certify the rest of the weapon system operators.

3.5.3.9. Training information is incorporated into the necessary courses (IQT, MQT, CT, IST) as appropriate.

Chapter 4

CONTINUATION TRAINING

4.1. General. This chapter establishes the minimum crewmember training requirements to maintain MR or BMC for an assigned training status. The SQ/CC will ensure each crewmember receives sufficient training to maintain individual currency and proficiency. **(T-3)**

4.2. Training Events/Tables. Units will include unit-specific events to include a description in their local training documentation. **(T-3)**

4.2.1. Crediting Event Accomplishment. Credit events accomplished on training, operational missions and satisfactory evaluations, or certifications, toward RCP requirements and establish a subsequent due date. Use date of successful evaluation as the date of accomplishment for all mission-related training events that were trained during a formal course. A successful evaluation establishes a new current and qualified reference date for all accomplished events. For IQT or RQT, the numbers of events accomplished prior to the evaluation are not credited to any crew position. In all cases, numbers of events successfully accomplished during the evaluation or certification are credited toward the crew position. **(T-3)**

4.2.2. For an unsatisfactory evaluation, do not log CT requirements for those events graded U/Q3 (according to ACCI 17-202 Volume 2, *Cybercrew Standardization/Evaluation Program*) until re-qualified. **(T-3)**

4.2.3. Instructors and evaluators may credit up to 50 percent of their total CT requirements while instructing or evaluating (see RTM). **(T-2)**

4.3. Continuation Training Requirements. Completion and tracking of CT is ultimately the responsibility of the individual crewmember. Crewmembers should actively work with their supervisors, unit schedulers, and training offices to ensure accomplishment and tracking of their CT requirements is appropriately annotated. **(T-3)**

4.3.1. Mission Training Events. Crewmembers will comply with requirements of the RTM for their respective position. Total sorties and events are minimums which ensure training to continually meet all DOC tasked requirements and may not be reduced except in proration/waiver. Unless specifically noted the COG/CC is the waiver authority for all RCP requirements and for all provisions in **Chapter 4** and **Chapter 5** of this volume. **(T-3)**

4.4. Multiple Qualification Training. See ACCI 17-202V1, ACCI 17-202V2, applicable HHQ guidance, and ACCMAN 17-2ACDV2, *Air Force Cyberspace Defense (ACD) - Standardization and Evaluation*, for multiple qualifications.

4.4.1. Requirements. Crewmembers will satisfy all sortie requirements in their crew positions. If MR, they will meet all RCP mission and event requirements for both weapon systems. **(T-3)**

4.4.2. They will comply with all currency requirements per the RCP for each crew position per weapon system. **(T-3)**

4.4.3. Crewmembers with multiple qualifications must complete training IAW the approved syllabus for each qualification. **(T-3)**

4.5. Currency, Proficiency and Requalification.

4.5.1. Currency. The RTM defines currency requirements for MR or BMC crewmembers. Crewmembers will not instruct, evaluate or perform any event in which they are not qualified and current unless under instructor supervision. **(T-3)** Currency may be established or updated by:

4.5.1.1. Accomplishing the event as a qualified crewmember provided member's currency has not expired. **(T-3)**

4.5.1.2. Accomplishing the event as a qualified crewmember under supervision of a current instructor. **(T-3)**

4.5.1.3. Satisfactorily performing events on any evaluation. **(T-3)**

4.5.2. If a crewmember is non-current, thereby requiring recurrency, that mission or event may not be performed except for the purpose of regaining currency. Non-current events must be satisfied before the crewmember is considered certified/qualified (as applicable) to perform those events unsupervised. Loss of currencies affecting MR status requires regression to NMR (see [paragraph 4.7](#)); loss of currencies not affecting MR status does not require regression. **(T-3)**

4.6. Loss of Instructor Status and Requalification/Recurrency.

4.6.1. Instructors may lose instructor status for the following:

4.6.1.1. Loss of currency for more than 180 days. **(T-3)**

4.6.1.2. Instructors become noncurrent in a mission or event which causes removal from MR or BMC status and the SQ/CC deems that loss of currency is of sufficient importance to require complete decertification of instructor (but not a complete loss of qualification). **(T-3)**

4.6.1.2.1. If the affected crewmember retains instructor qualification IAW ACCI 17-202V2, recertification will be at the SQ/CC's discretion. **(T-3)**

4.6.1.2.2. If the SQ/CC does not elect to decertify the individual or if the individual becomes noncurrent in missions or events which do not require removal from MR or BMC status, instructor status may be retained, but the instructor will not instruct that mission or event until the required currency is regained. **(T-3)**

4.6.1.3. Instructor Lack of Ability. Instructors serve solely at the discretion of the SQ/CC. Instructors should exemplify a higher level of performance and present themselves as reliable and authoritative experts in their respective duty positions. Instructors exhibiting substandard performance should be reviewed for suitability of continued instructor duty. Instructors will be decertified if:

4.6.1.3.1. Awarded a less than fully qualified (Q1/Q) grade in any area of the evaluation regardless of overall crewmember position qualification. **(T-3)**

4.6.1.3.2. Failure of a qualification. **(T-3)**

4.6.1.3.3. SQ/CC deems the instructor is substandard, ineffective, or providing incorrect procedures, techniques, or policy guidance. **(T-3)**

4.6.1.3.4. Decertified instructors may regain instructor status by correcting applicable deficiencies and completing the training and/or evaluation as specified by the SQ/CC. **(T-3)**

4.7. Regression.

4.7.1. MR or BMC Regression for Failure to Meet Lookback. Only RCP training missions and cyberspace operations sorties may be used for lookback. If a crewmember does not meet lookback requirements throughout the training cycle, SQ/CC can regress the crewmember to NMR/N-BMC, as applicable (see [figure 4.1](#)). **(T-3)**

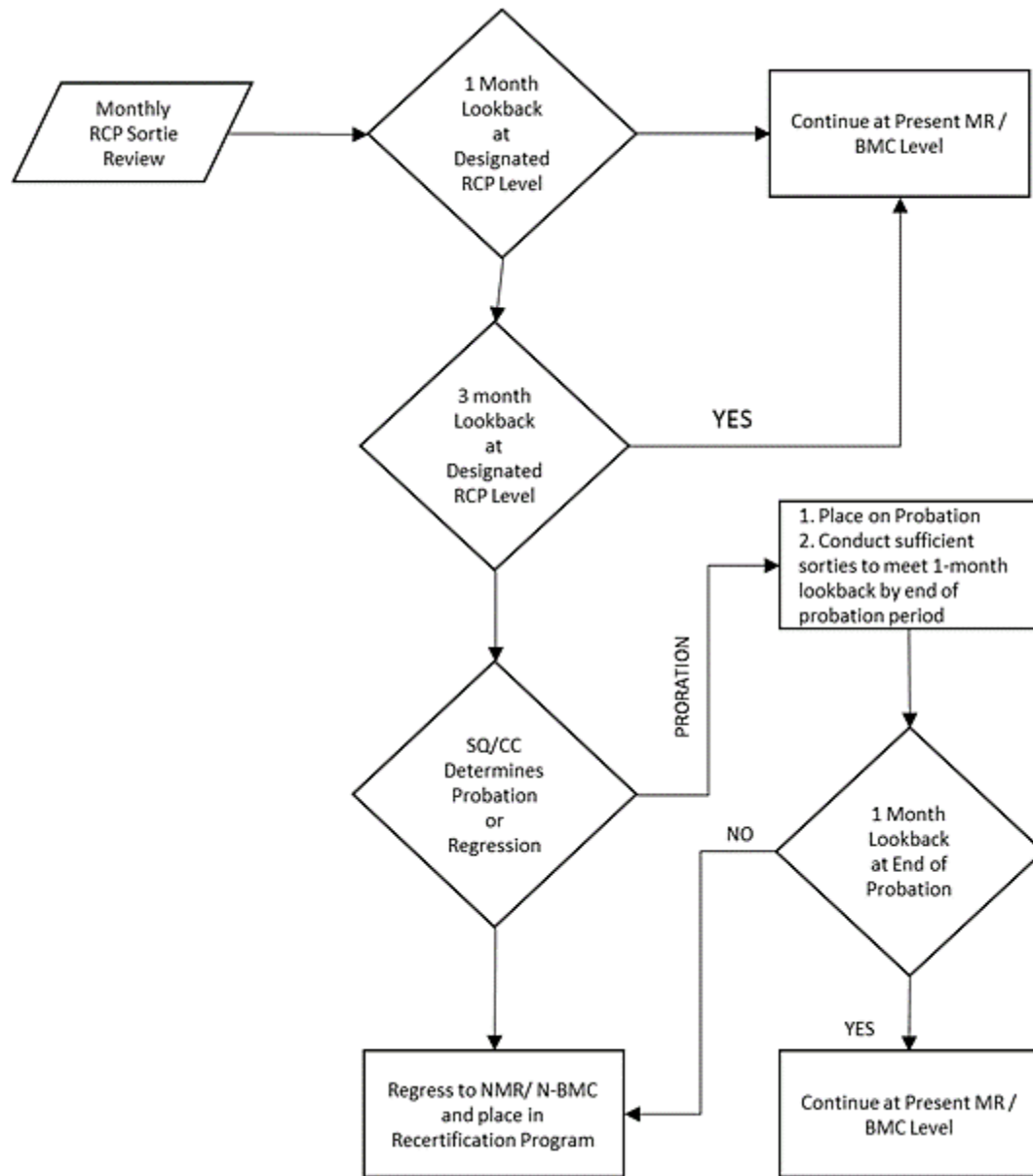
4.7.1.1. Failure to meet one-month lookback requires a review of the crewmember's three-month sortie history. If the three-month lookback is met, the crewmember may, at SQ/CC discretion, remain in MR/BMC status. Failure to meet the three-month lookback will result in regression to NMR/N-BMC, as applicable, or the crewmember may be placed in probation status at the SQ/CC's discretion. If probation is chosen, the only way to remove a crewmember from probation and preserve the current status is to reestablish a one-month lookback at the end of the probation period. **(T-3)**

4.7.1.2. Lookback computations begin following completion of qualification evaluation. The crewmember must maintain one-month lookback until three-month lookback is established. SQ/CCs may apply probation rules as described in [paragraph 4.7.1.1](#) if a new MR/BMC crewmember fails to meet one-month lookback while establishing three-month lookback. In addition, one-month lookback will start the first full month of MR/BMC status. **(T-3)**

4.7.2. Regression for Failed Evaluations. Crewmembers who fail a periodic evaluation are unqualified and will regress to NMR/N-BMC as applicable. Crewmembers will remain NMR/N-BMC until they have successfully completed required corrective action, a requalification evaluation if required, and are re-certified by the SQ/CC. **(T-3)**

4.7.3. Failure to Maintain Standards. If a qualified crewmember demonstrates lack of proficiency or knowledge the SQ/CC may elect to regress the individual to NMR/M-BMC as applicable. These crewmembers will remain NMR/N-BMC until successful completion of corrective action as determined by the SQ/CC, an evaluation if required and are re-certified by the SQ/CC. **(T-3)**

Figure 4.1. Regression Flow Chart.



4.8. End of Cycle Requirements. Crewmembers who fail to complete mission or event requirements by the end of the training cycle may require additional training depending on the type and magnitude of the deficiency. Refer to [paragraph 4.9](#) for proration guidance. In all cases, units will report training shortfalls to the COG/CC. (T-3)

4.8.1. Crewmembers failing to meet annual RCP events or total sortie requirements may continue CT at MR or BMC as determined by lookback. The SQ/CC will determine if additional training is required.

4.8.2. Failure to meet specific MR or BMC mission type requirements will result in one of the following:

4.8.2.1. Regression to N-MR/N-BMC if the SQ/CC determines the mission type deficiency is significant. To regain MR or BMC, the crewmember will complete all

deficient mission types. These missions may also be counted toward the total requirements for the new training cycle. **(T-3)**

4.8.2.2. Continuation at MR or BMC if total RCP missions and lookback are maintained and the mission type deficiencies are deemed insignificant by the SQ/CC. The SQ/CC will determine if any additional training is required to address shortfalls. **(T-3)**

4.8.3. Failure to accomplish missions/events required for Special Mission certifications/Special Mission Qualifications (SMQs) will result in loss of that certification/qualification. The SQ/CC will determine recertification requirements. Requalification requirements are IAW ACCI 17-202V2, applicable HHQ guidance, and ACCMAN 17-2ACDV2.

4.9. Proration of Training.

4.9.1. Proration of End-of-Cycle Requirements. At the end of the training cycle the SQ/CC may prorate any training requirements precluded by the following events: initial arrival date in squadron, emergency leave, non-mission temporary duty (TDY) (e.g., Professional Military Education), exercises, or deployments. Ordinary annual leave will not be considered as non-availability. Other extenuating circumstances, as determined by the SQ/CC, that prevent crewmembers from mission duties for more than 15 consecutive days may be considered as non-availability for proration purposes. **(T-3)** The following guidelines apply:

4.9.1.1. Proration will not be used to mask training or planning deficiencies. **(T-3)**

4.9.1.2. Proration is based on cumulative days of non-availability for mission duties in the training cycle. Use **Table 4.1** to determine the number of months to be prorated based on each period of cumulative non-mission duty calendar days. **(T-3)**

4.9.1.3. If MQT is re-accomplished, a crewmember's training cycle will start over at a prorated share following completion of successful evaluation. **(T-3)**

4.9.1.4. No requirement may be prorated below one month. Prorated numbers resulting in fractions of less than 0.5 of a month will be rounded to the next lower whole number (one or greater). **(T-3)**

4.9.1.5. Newly assigned crewmembers achieving MR or BMC after the 15th of the month are considered to be in CT on the first day of the following month for proration purposes. A prorated share of RCP missions must be completed in CT. **(T-3)**

4.9.1.6. A crewmember's last month on station prior to PCSing may be prorated provided 1 month's proration is not exceeded. Individuals PCSing may be considered MR for reporting purposes during a period of 60 days from date of last mission/sortie, or until loss of MR currency, port call date, or sign in at a new duty station, whichever occurs first. **(T-3)**

4.9.1.7. MR crewmembers who attend the United States Air Force (USAF) Weapons School (USAFWS) in TDY-and-return status may be reported throughout the TDY as MR. Upon return, those crewmembers will accomplish a prorated share of mission and event requirements. **(T-3)**

4.9.1.8. Activated ARC members on orders for 30 consecutive days or greater, will maintain active duty proficiencies and currency requirements prorated for the duration they are on orders. (T-3)

4.10. Operational Missions. The following procedures are intended to provide flexibility in accomplishing the unit's CT program. Sorties conducted in support of operations will be logged and count toward annual RCP requirements for lookback purposes. Operational missions and events may be used to update proficiency/currency requirements if they meet the criteria in the RTM. (T-3)

4.10.1. Example: Capt Jones was granted 17 days of emergency leave in January and attended SOS in residence from March through April for 56 consecutive calendar days. The SQ/CC authorized a total of two months proration from his training cycle (two months for the 73 cumulative days of non-availability).

Table 4.1. Proration Allowance.

CUMULATIVE DAYS OF NON-MISSION ACTIVITY	PRORATION ALLOWED (Months)
0 – 15	0
16 – 45	1
46 – 75	2
76 – 105	3
106 – 135	4
136 – 165	5
166 – 195	6
196 – 225	7
226 – 255	8
256 – 285	9
286 – 315	10
316 – 345	11
Over 345	12

4.11. Regaining Mission Ready (MR) or Basic Mission Capable (BMC) Status.

4.11.1. If MR or BMC status is lost due to failure to meet the end of cycle event requirements, re-certification/re-qualification is IAW [paragraph 4.9](#) IAW ACCI 17-202Vs1 & 2, applicable HHQ guidance, and ACCMAN 17-2ACDV2. (T-2)

4.11.2. If MR or BMC status is lost due to failure to meet lookback, the following applies (timing starts from the date the crewmember was removed from MR or BMC status):

4.11.2.1. Up to 90 Days. Complete a SQ/CC approved recertification program (documented in the individual's training folder) to return the crewmember to MR or BMC standards. Upon completion of the recertification program, the MR or BMC crewmember must also meet the subsequent one-month lookback requirement prior to reclaiming MR or BMC status. The missions and events accomplished during the recertification program may be credited towards their total/type mission and event requirements for the training cycle as well as for their monthly mission requirement. In addition, all RCP event currencies

must be regained. The SQ/CC will approve any other additional training prior to MR recertification. **(T-3)**

4.11.2.2. 91-180 Days. Same as above, plus open/closed book qualification examinations (IAW ACCI 17-202V2). Open/closed book exams will be documented IAW ACCI 17-202V2. **(T-2)**

4.11.2.3. 181 Days and Beyond. Re-accomplish a SQ/CC-directed MQT program to include a formal MSN evaluation IAW ACCI 17-202V2, applicable HHQ guidance, and ACCMAN 17-2ACDV2. **(T-2)**

Chapter 5

UPGRADE AND SPECIALIZED TRAINING

5.1. General. This chapter outlines duties and responsibilities for units to upgrade, qualify, certify, and maintain currency/proficiency for special missions and certifications/qualifications. SQ/CCs may tailor programs for individuals based on previous experience, qualifications, and documented performance. These certifications/qualifications are in addition to unit core missions and do not apply to every crewmember assigned or attached to the unit.

5.1.1. SMQ and Special Mission Certification requires SMT. Instructors require pre-requisites and the designated upgrade training as indicated within **Table 5.1.(T-2)**

5.2. Requirements. **Table 5.1** lists the requirements for upgrade and special mission training. Additionally, commanders must ensure each candidate has the ability, judgment, technical expertise, skill, and experience when selecting a crewmember for upgrade or specialized mission training. ACD operators are declared experienced on their respective crew positions when they meet 200 mission hours and the listed requirements. **(T-3)**

Table 5.1. Minimum Training Requirements.

Base Qualification (BQ)	Criteria
Cyberspace Defense Operator (CDO)	<p>Prerequisites:</p> <ul style="list-style-type: none"> Undergraduate Cyberspace Training (UCT) or Cyberspace Warfare Operator (CWO) training, or Joint Cyber Analysis Course (JCAC) training CDO IQT (Note 1) <p>Completion:</p> <ul style="list-style-type: none"> CDO MQT
Instructor Upgrade	Criteria
All positions	<p>Prerequisites:</p> <ul style="list-style-type: none"> Experienced (Note 2) Approved score on two consecutive simulated missions (Note 3) <p>Completion:</p> <ul style="list-style-type: none"> Wing approved instructor course
Upgrade Position	Criteria
Incident Responder (IR)	<p>Prerequisites:</p> <ul style="list-style-type: none"> Instructor CDO <p>Completion:</p> <ul style="list-style-type: none"> IR MQT Tactical Planner's Course (TPC)
Special Mission Qualification (SMQ)	Criteria

Tactical Validation and Assessment (TVA)	<p>Prerequisites:</p> <ul style="list-style-type: none"> Instructor CDO
Crew Commander (CCC)	<p>Completion:</p> <ul style="list-style-type: none"> Applicable SMT
Cyber Threat Intelligence Analyst (CTIA)	<p>Prerequisites:</p> <ul style="list-style-type: none"> Joint Cyber Analysis Course (JCAC) Qualified CDO <p>Completion: CTIASMT</p>
Threat Hunting (TH)	<p>Prerequisites:</p> <ul style="list-style-type: none"> Experienced IR (Note 2) <p>Completion:</p> <ul style="list-style-type: none"> TH SMT
<p>Notes:</p> <ol style="list-style-type: none"> IQT courses for legacy ACD positions meet entry criteria for CDO. Experienced requirement is 200 mission hours. Sq/CC will approve simulated mission scenarios and grading to assess operator eligibility for CDO instructor upgrade. 	

5.3. Instructor Upgrade. This section establishes the minimum guidelines for instructor upgrade.

5.3.1. Instructor Responsibilities. An instructor shall be a subject matter expert adept in the methodology of instruction. The instructor shall be proficient in assessing, diagnosing, and critiquing student performance, identifying learning objectives and difficulties, and prescribing and conducting remedial instruction. The instructor must be able to conduct instruction in all training venues (e.g., classroom, training devices, ops floor, mission execution). **(T-3)**

5.3.1.1. Instructor Prerequisites. SQ/CCs will consider ability, judgment, technical expertise, skill, and experience when selecting a crewmember for instructor upgrade. **(T-3)**

5.3.1.2. Instructor minimum requirements. Instructor candidates must be in MR status. Appointed instructors will meet minimum instructor eligibility requirements in **Table 5.1** and will attend an instructor course consisting of training on the Instructional Systems Development (ISD) process and Instructional Methodologies (e.g., 688 CW Instructor Certification Course). USAFWS graduates are not required to attend an instructor course and are not required to meet minimum instructor eligibility requirements. Instructor

upgrade training will include methodology of instruction, Air Force tasking process, mission planning, and unit mission employment at the minimum (e.g., tasked mission types). **(T-3)**

5.3.1.3. Training. Instructor training will include methodology of instruction, Air Force tasking process, mission planning, and unit mission employment at the minimum (e.g., tasked mission types). **(T-3)**

5.3.1.4. Qualification. All instructor candidates will follow ACCI 17-202V 2, *Cybercrew Standardization/Evaluation Program*, for listed requirements on evaluation criteria and graded areas. All instructor candidates will demonstrate to an evaluator their ability to instruct and perform selected tasks and items within their crew position, upgrade, and/or SMQ according to applicable directives. Following successful completion of instructor training and evaluation, the SQ/CC or designated representative will personally interview the candidate and review instructor responsibilities, scope of duties, authority, and philosophy. **(T-3)**

5.4. Mission Commander (MC). This section establishes the minimum guidelines for MC training.

5.4.1. Responsibilities. The MC is responsible for planning, coordinating, briefing, executing, and debriefing cyberspace large force employment packages. MCs, once certified, are authorized to lead wing-level composite force missions. **(T-3)**

5.4.2. MC Prerequisites. SQ/CCs will consider ability, judgment, technical expertise, skill, and experience when selecting a crewmember for MC upgrade. **(T-3)**

5.4.2.1. Requirement is an TH-IR qualified crew member. **(T-3)**

5.4.3. Training. Wings will develop and maintain a Mission Commander Course. MCs must satisfactorily complete a Mission Commander Course prior to MC certification. **(T-3)**

5.4.4. Mission Execution. As a minimum, the upgrading MC will observe a certified MC during the planning, briefing, flight, and debrief of at least one composite force mission. Prior to certification, the MC candidate will plan, brief, execute, and debrief (PBED) a minimum of one rehearsal of concept large force employment under instructor supervision. **(T-3)**

5.4.5. Certification. Following successful completion of MC training, the SQ/CC or designated representative will personally interview the candidate and review MC responsibilities, scope of duties, authority, and philosophy. The SQ/CC will certify the new MC. A certification letter will be annotated in the individual's training records and tracked in the unit Letter of Xs. **(T-3)**

DAVID B. LYONS, Maj Gen, USAF
Director of Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

10 USC § 9013, *Secretary of the Air Force*, 10 August 1956

ACCI 17-202V1, *Cybercrew Training*, 12 January 2021

ACCI 17-202V2, *Cybercrew Standardization/Evaluation Program*, 12 January 2021

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AFI 16-1007, *Management of Air Force Operational Training Systems*, 1 October 2019

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

AFTTP 3-1.ACD, *(U) Tactical Employment Air Force Cyber Defense (ADC)*, 3 November 2017

DAFH 36-2675, *Information for Designers of Instructional Systems*, 15 April 2022

DAFI 36-2670, *Total Force Development*, 25 June 2020

DAFMAN 90-161, *Publishing Processes and Procedures*, 15 April 2022.

Prescribed Forms

None

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ACC—Air Combat Command

ACD—Air Force Cyberspace Defense

ADO—Assistant Director of Operations

AFNET—Air Force Network

AFTTP—Air Force Tactics, Techniques and Procedures

API—Application Programming Interface

ARC—Air Reserve Components

BMC—Basic Mission Capable

C2—Command & Control

CC—Commander

CCC—Crew Commander

CDE—Content Development Engineer

CDO—Cyberspace Defense Operator
COG—Cyberspace Operations Group
COG/CC—Cyber Operations Group Commander
CNSE—Cloud Network Security Engineer
CSSP—Cyberspace Security Provider
CT—Continuation Training
CTIA—Cyber Threat Intelligence Analyst
CWO—Cyberspace Warfare Operator
DevOps—Development Operations
DNS—Domain Name Server
DOC—Designed Operational Capability
DOK—Weapons and Tactics
DOT—Director of Operational Training
ESM—Enterprise Signature Management
FAM—Functional Area Manager
FLT—Flight
FLT/CC—Flight Commander
FMA—Forensics & Malware Analysis
FTU—Formal Training Unit
FYDP—Future Years Defense Program
GIAC—Global Information Assurance Certification
GPYC—Global Information Assurance Certification Python Coder
IP—Internet Protocol
IPT—Initial Planning Team
IQT—Initial Qualification Training
IR—Incident Responder
ISD—Instructional Systems Development
IST—Initial Skills Training
IT—Information Technology
JCAC—Joint Cyber Analysis Course
MC—Mission Commander
MFM—Major Command Functional Manager

MQT—Mission Qualification Training
MR—Mission Ready
MSN—Mission
MTTL—Master Training Task Listing
N-BMC—Non-Basic Mission Capable
NGB—National Guard Bureau
NMR—Non-Mission Ready
OPORD—Operations Order
ORB—Operational Review Board
OSS—Operations Support Squadron
PBED—Plan, Brief, Execute, and Debrief
PCAP—Packet Capture
PCS—Permanent Change of Station
PMO—Program Management Office
RCP—Ready Cybercrew Program
RFP—Request for Proposal
RQT—Requalification Training
RTM—RCP Tasking Memorandum
SMQ—Special Mission Qualification
S3—Simple Storage Service
SANS—System Administration Network Security
SIEM—Security Incident and Event Manager
SOAR—Security Orchestration, Automation and Response
SQ—Squadron
SQ/CC—Squadron Commander
SRB—Syllabus Review Board
TAC-CSSP—Tactical Arm: Cloud - Cybersecurity Service Provider
TDY—Temporary Duty
TH—Threat Hunting
TMT—Task Management Tool
TO—Technical Order
TPT—Training Planning Team

TTP—Tactics, Techniques and Procedures

TVA—Tactical Validation and Assessment

UCT—Undergraduate Cyberspace Training

USAFWS—United States Air Force Weapons School

WST—Weapons System Team

Office Symbols

ACC/A3—Air Combat Command Director of Operations

ACC/A3T—Air Combat Command Flight Operation Division

ACC/A6—Air Combat Command Directorate of Cyberspace and Information Dominance

ACC/A6O—Air Combat Command Cyberspace Transformation Division

Terms

Additional Training—Any training recommended to remedy deficiencies identified during an evaluation that must be completed by a specific due date. This training may include self-study, CTD, or simulator. Additional training must include demonstration of satisfactory knowledge or proficiency to examiner, supervisor or instructor (as stipulated in the Additional Training description) to qualify as completed.

Attached Personnel—This includes anyone not assigned to the unit but maintaining qualification through that unit. Air Force Reserve Command, Air National Guard, and Headquarters Air Force augmented personnel are an example of attached personnel.

Basic Mission Capable (BMC)—A crewmember who satisfactorily completed IQT and MQT, but is not in fully-certified MR status. The crewmember must be able to attain MR status to meet operational taskings as specified in the applicable instructional supplements. This status is primarily for individuals in units that perform weapon system-specific operational support functions (i.e., formal training units, operational test and tactics development). BMC requirements will be identified in the appropriate weapon system guidance.

Certification—Designation of an individual by the certifying official (normally the SQ/CC) as having completed required training and being capable of performing a specific duty.

Continuation Training (CT)—Training which provides crewmembers with the volume, frequency, and mix of training necessary to maintain currency and proficiency in the assigned qualification level.

Currency—A measure of how frequently and/or recently a task is completed. Currency requirements should ensure the average crewmember maintains a minimum level of proficiency in a specific event/task. Currency is measured in calendar days.

Experienced Crewmember—A crewmember who has met the minimums listed in the RTM, has completed MQT and maintains MR or BMC requirements of this instruction, and who, in the commander's judgment, exhibits a high degree of experience, professionalism, and proficiency to support unit missions.

Inexperienced Crewmember—A crewmember in the first year of their initial operational assignment.

Initial Qualification Training (IQT)—Weapon system-specific training designed address system specific and/or positional specific training leading to declaration of BCQ as a prerequisite to Mission Qualification Training (MQT).

Instructor—An experienced individual qualified to instruct other individuals in mission area academics and positional duties. Instructors will be qualified appropriately to the level of the training they provide.

Instructor Event—An event logged by an instructor when performing instructor duties during the sortie, or a portion thereof. Instructor qualification required and used for the mission or a mission element. Examples include upgrade sorties, updating lost currencies, etc. Instructors will log this event on evaluation sorties.

Mission—A set of tasks that lead to an objective, to include associated planning, brief, execution, and debrief.

Mission Qualification Training (MQT)—Following IQT, MQT is a formal training program used to qualify crewmembers in assigned crew positions to perform the unit mission. This training is required to achieve a basic level of competence in unit's primary tasked missions and is a prerequisite for MR or BMC declaration.

Mission Ready (MR)—The status of a crewmember who satisfactorily completed IQT, MQT, and maintains certification, currency and proficiency in the command or unit operational mission.

One—Month Lookback—Total individual crewmember RCP sorties are tracked over a preceding set time period based off the RTM. This lookback is used to assess individual progress in achieving the total sorties (minimum) required for the 12-month training cycle.

Proficiency—A measure of how well a task is completed. A crewmember is considered proficient when they can perform tasks at the minimum acceptable levels of speed, accuracy, and safety.

Qualification—Designation of an individual by the unit commander as having completed required training and evaluation and being capable of performing a specific duty.

Ready Cybercrew Program (RCP)—RCP is the formal continuation training (CT) program that provides the baseline for squadrons to use in developing a realistic training program to meet all DOC statement tasked requirements as well as specific NAF mission prioritization. RCP defines the minimum required mix of annual sorties, simulator missions, and training events crew will accomplish to sustain mission readiness. These programs have clearly defined objectives and minimum standards that enhance mission accomplishment and safety. RCP sorties are tracked. In order to be effective, each mission will successfully complete a sufficient number of events applicable to that mission type, as determined by the Squadron Commander. With completion of IQT and MQT, a crewmember is trained in all the basic missions of a specific unit, unless a specific exception is provided in the WS-specific Volume 1. RCP applies to MR and BMC positions.

Sortie—The actions an individual cyberspace weapon system takes to accomplish a mission and/or mission objective(s) within a defined start and stop period. A sortie is equal to the crew members duty day or work shift.

Special Mission Training (SMT)—Training in any special skills (e.g., tactics, weapon system capabilities, responsibilities) necessary to carry out the unit's assigned missions that are not required by every crew member. Specialized training is normally accomplished after the crew member is assigned MR or BMC status, and is normally in addition to MR or BMC requirements. This training may require an additional certification and/or qualification event as determined by the SQ/CC.

Squadron Supervisor—May include all or some of the following depending on specific guidance and SQ/CC concurrence: SQ/CC, SQ/DO, Assistant Directors of Operations (ADOs), and Flight Commanders (FLT/CCs).

Supervised Status—The status of a crewmember who must perform missions/sorties under instructor supervision.

Training Level—Assigned to individuals based on the CT status (BCQ, BMC, or MR) they are required to maintain.

Training Period—Any training period determined by the wing in which training requirements are performed.

Upgrade Training—Training needed to qualify to a crew position of additional responsibility for a specific weapon system. Also see special mission training.

Attachment 2

CERTIFICATION TRAINING

A2.1. General. This attachment outlines upgrade training programs for special capabilities and certifications. These programs are intended to provide a basic starting point and may be modified by the SQ/CC based on the unit's requirements and/or the upgradee's previous experience, qualifications, and documented performance. Training for these programs includes unit-developed academics and scenarios. Training is conducted IAW a program approved by the SQ/CC. **(T-3)**

A2.1.1. Scope. The RTM may list additional specialized training requirements. **(T-3)**

A2.1.2. All certifications are in accordance with [Table A2.1](#). **(T-3)**

A2.2. Forensics and Malware Analysis (FMA) - Certification.

A2.2.1. FMA Prerequisites. Operators seeking certification in FMA will be at least CDO Instructor qualified. **(T-3)**

A2.2.2. FMA Responsibilities FMA certified operators are responsible to the CCC for characterizing suspected malware by leveraging controlled environments and for conducting forensic analysis of provided system hardware. FMA operators will:

A2.2.2.1. Conduct reverse engineering analysis. **(T-3)** Examine suspected malware in assembly language to understand use of parameters, return values, and other structural elements. **(T-3)**

A2.2.2.2. Conduct dynamic analysis. **(T-3)** Execute suspected malware to observe process memory, system changes, and network activity. **(T-3)**

A2.2.2.3. Conduct metadata analysis. **(T-3)** Examine suspected malware by using antivirus, debuggers, and other tools to identify malicious hashes, function calls, and/or strings. **(T-3)**

A2.2.2.4. Conduct forensic analysis of system hardware. **(T-3)** Examine disk allocation, memory partitions, master boot record, and other hardware memory artifacts. **(T-3)**

A2.2.2.5. Report results of malware characterization and hardware forensic analysis. **(T-3)**

A2.2.2.6. Provide technical assistance to triage missions, incident response missions, hunt missions and dynamic taskings as required. **(T-3)**

A2.2.3. FMA Training. Training will consist of Global Information Assurance Certification's (GIAC) Reverse Malware Engineering course as well as any supplemental training provided by the unit. **(T-3)**

A2.3. Enterprise Signature Management (ESM) – Certification.

A2.3.1. ESM Prerequisites. Operators seeking certification in ESM will be at least CDO Instructor qualified.. **(T-3)**

A2.3.2. ESM Responsibilities. ESM certified operators are responsible to the CCC for network and host signature creation and management to improve defense. ESM personnel will: **(T-3)**

A2.3.2.1. Analyze provided artifacts from investigations, tippers, and tasks. (T-3)

A2.3.2.2. Develop, refine, and deploy signatures to prevent malicious activity. (T-3)

A2.3.2.3. Create new detection methods. If applicable, coordinate with TVA, IR, TH, and intelligence personnel to test friendly TTPs against enemy TTPs. (T-3)

A2.3.2.4. Report results of signature development, refinement, and deployment. (T-3)

A2.3.2.5. Provide technical assistance to triage missions, incident response missions, hunt missions, and dynamic taskings as required. (T-3)

A2.3.3. ESM Training. Training will be provided by the unit. (T-3)

A2.4. Content Development Engineer (CDE) – Certification.

A2.4.1. CDE Prerequisites. Operators seeking certification in CDE will be at least CDO Instructor qualified. (T-3)

A2.4.2. CDE Responsibilities. CDE certified operators are responsible to the CCC for providing alerting and automated process for all incoming host and network data across the Air Force Network (AFNET). (T-3)

A2.4.2.1. Develop, deploy and tune Security Incident and Event Manager (SIEM) alerting, Security Orchestration, Automation and Response (SOAR) Automation and Case management workflow. (T-3)

A2.4.2.2. Streamline and automate case management process for all work centers. (T-3)

A2.4.2.3. Coordinate with Intel, TVA and TH to implement and validate current/new MITR and all source detection method automation. (T-3)

A2.4.2.4. Coordinate with CDOs and TH to provide data sources, high fidelity alerts and provide automated TTP's. (T-3)

A2.4.2.5. Automate current and proposed process within SOAR API's. (T-3)

A2.4.2.6. Provide the AFNET with High true positive rate alerting utilizing SIEM and Machine Learning tools and techniques. (T-3)

A2.4.3. CDE Training. Training will consist of System Administration Network and Security (SANS) 555: SIEM with Technical Analysis course as well as any supplemental training provided by the unit. (T-3)

A2.5. Cloud Network Security Engineer (CNSE) – Certification.

A2.5.1. CNSE Prerequisites. Operators seeking certification in CNSE will be at least CDO Instructor qualified. (T-3)

A2.5.2. CNSE Responsibilities. CNSE certified operators are responsible to deliver tactical, technical effects to the 16 AF CSSP through data engineering, identification, response, and dynamic tasks in support of assigned mission partners. CNSEs will:

A2.5.2.1. Conduct directed development, engineering, and administration of secure logging infrastructure for assigned mission partners. Facilitate ingestion of mission partner log data and maintain integrity of the cloud-hosted SIEM environment. (T-3)

A2.5.2.2. Execute triage missions, incident response missions, and dynamic tasks. Conduct identification, scoping and response actions to meet objectives. Direct allocated Tactical Arm: Cloud - Cybersecurity Service Provider (TAC-CSSP) members in cloud-specific actions. **(T-3)**

A2.5.2.3. Execute directed scoping actions. Find cloud-oriented objects matching target: accounts, identity and access management configurations, S3 objects, APIs, IP addresses, security groups, virtual private clouds, or other correlating data to determine extent of compromises. **(T-3)**

A2.5.2.4. Debrief recommended response actions in support of mission partners: accounts, identity and access management, S3 objects, IP addresses, security groups, virtual private clouds, or other correlating data to determine extent of compromises. **(T-3)**

A2.5.2.5. Provide technical assistance to triage missions, incident response missions, and dynamic taskings as required. **(T-3)**

A2.5.3. **CNSE Training.** Training will consist of Amazon Web Service's Certified Cloud Practitioner course as well as any supplemental training provided by the unit. **(T-3)**

A2.6. Development Operations (DevOps) – Certification.

A2.6.1. DevOps Prerequisites. Operators seeking certification in DevOps will be at least CDO Instructor qualified. **(T-3)**

A2.6.2. DevOps Responsibilities. DevOps certified operators are responsible for providing the unit with coding capabilities to better streamline and automate processes as well assist in maintaining in-house developed. **(T-3)**

A2.6.3. DevOps Training. Training will consist of SEC 540: Cloud Security and DevSecOps Automation course as well as any supplemental training provided by the unit. **(T-3)**

Table A2.1. ACD Certification Criteria.

CERTIFICATION	CRITERIA	
	PREREQUISITE	COMPLETION
Forensics and Malware Analysis (FMA)	CDO Instructor	GIAC Reverse Engineering Malware Certification or Equivalent Additional squadron provided training
Enterprise Signature Management (ESM)	CDO Instructor	Additional squadron provided training
Content Development Engineer (CDE)	CDO Instructor	SANS 555:SIEM with Tactical Analytics Additional squadron provided training

Cloud Network Security Engineer (CNSE)	CDO Instructor	AWS Certified Cloud Practitioner Certification Additional squadron provided training
Development Operations (DevOps)	CDO Instructor	<u>SEC 540: Cloud Security and DevSecOps Automation course</u> Additional squadron provided training