

Training Syllabus

ZAB Order 7310.001

Albuquerque ARTCC

15 January 2020

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1 Purpose

This document sets forth the expectations, policies and procedures for Controller training at Albuquerque ARTCC. The guidelines and processes contained herein shall be followed as outlined by all members of the ZAB Training Department.

2 Roles and Responsibilities

The syllabus shall be maintained by the Training Administrator (TA). Upon vacating the position, the outgoing TA shall provide the source file of this syllabus to the incoming TA, so that they may continue to modify this syllabus as needed. Policies shall be maintained in accordance with established VATSIM Global Rating Policies. At no time shall any provision in this manual conflict with a VATSIM, VATNA or VATUSA policy.

3 Distribution

This order is distributed to all Albuquerque ARTCC Controllers, Staff, Visiting controllers and its new members.

4 OBS > S1

4.1 Milestone GC1 – Basic ATC and Delta Introduction

Initial training session shall be conducted at KFLG. Only a single session is required for this Milestone.

Timeframe: 1 session, 2-3 hours

Airfield: KFLG

4.1.1 Prerequisite Qualifications:

- Signed up on VATSIM, Assigned to ZAB
- Passing score ZAB New Member Knowledge Exam

4.1.2 Prerequisite Reading:

- 7210.001 (Controller Policy Manual)
- 7210.002 (Training Operations Manual)
- VATUSA S1 CBT
- S1 section of ZAB Phraseology Guide
- KFLG Minor Field Reference Guide
- Aircraft Equipment Suffix Guide
- VFR Weather Minimums
- Airspace Entry Requirements

4.1.3 Files to Download:

- Sector File / Alias / POF
- AudioForVATSIM (AFV) Standalone Client
- vATIS
- ZAB Quick Reference Guide
- ZAB VOR Reference List

4.1.4 Introduction to VRC

Student will be walked through the initial setup of VRC (including SweatBox) using a list of standard options. Certain settings may be tuned to their liking should it be necessary.

Topics to be covered:

- Configuring a VRC "Profile" for specific positions
- Communications Panel setup
- Using Diagrams to display airport layouts, SIDs/STARs, special use airspace, etc.
- Flight Strip Bay configuration
- Function "F" keys and their associated commands
- AFV standalone client configuration; transceiver setup, etc.

4.1.5 Introduction to KFLG

Student is introduced to KFLG and its airspace class. Student is instructed that while this training is only taking place at FLG, the concepts learned can be applied to any Class D airfield and that controlling Class C & B will build upon these concepts.

Concepts related to roles and responsibilities will be introduced at this stage:

- Control positions and their responsibilities
- Classes of airspace (including entry requirements)
- Chart reading; primarily Airport Diagram / SID (STAR and IAP to be introduced, but covered in depth at S2>S3)
- METAR decoding and determining airport flows
- NE ODD / SW EVEN, RVSM and lowest usable FL based on altimeter
- IFR vs VFR
- Basic phraseology
- CRAFT

4.1.6 SweatBox

- Student will run through the KFLG situation file on SweatBox and will continue practicing until proficiency is demonstrated:
 - File 1: KFLG – IFR/VFR with a mix of correct, incorrect and incomplete flight plans
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- New reading material for KABQ Class C operations will be assigned for the next Milestone
- Training notes updated

4.2 Milestone GC2 – Class C Operations

Student will start training at KABQ. No more than 2 sessions should be required for this Milestone.

Timeframe: 1-2 session(s), 2-4 hours total

Airfield: KABQ

4.2.1 Prerequisite Qualifications:

- Milestone GC1 completed

4.2.2 Prerequisite Reading:

- Albuquerque ATCT SOP (only Clearance Delivery [CD] / Ground Control [GC] sections required)

4.2.3 Introduction to KABQ

Albuquerque Intl Sunport is the second busiest airport and one of five other Class C airfields within the ZAB airspace. The student will be introduced to the KABQ Class C airspace layout and topics regarding aircraft equipment and airspace entry requirements.

- Create VRC profile for KABQ
- Discuss full RNAV, RNAV hybrid and non-RNAV / radar vectored departures
- ABQ VFR clearances

4.2.4 SweatBox

- Student will run through two separate situation files for KABQ on Sweatbox and will continue practicing with them until proficiency is demonstrated:
 - File 1: IFR/VFR with complete and correct flight plans
 - File 2: IFR/VFR with a mix of correct, incorrect and incomplete VFR flight plans
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- New reading material for KPHX Class B operations assigned for next Milestone
- Training notes updated
- Upon completion of Milestone GC2, **S1 rating with Minor Field endorsement will be issued**

4.3 Milestone GC3 – Class B Operations

Student starts training at KPHX. A least two sessions are to be conducted here: at least one on SweatBox and one on the live network.

Timeframe: 2-4 sessions, 5+ hours total

Airfield: KPHX

4.3.1 Prerequisite Qualifications:

- S1 Rating
- Milestone GC2 completed

4.3.2 Prerequisite Reading:

- Phoenix ATCT SOP (only CD/GC sections required)
- P50 / PHX ATCT LOA
- ZAB / ZLA LOA (specifically sections pertaining to KPHX)
- KPHX Old SID Reference Sheet
- KPHX Parking Map

4.3.3 Introduction to KPHX

Phoenix Sky Harbor is the busiest airport within ZAB and the only Class B airspace. It is designated as a “Major” airport and requires an Over-the-Shoulder (OTS) Exam and/or checkout by an Instructor prior to being able to control solo – regardless of one’s rating.

- Create VRC profile for KPHX
- Review airspace classes and entry requirements
- Introduction to the VFR Class B clearance and what it means to clear “into”, “out of” and “through”

4.3.4 SweatBox

- Student will run through two separate situation files for KPHX on Sweatbox and will continue practicing with them until proficiency is demonstrated:
 - File 1: IFR/VFR with complete and correct flight plans
 - File 2: IFR/VFR with a mix of correct, incorrect and incomplete VFR flight plans
- Student shall conduct at least two hours of training on the live network under the supervision of a Mentor / Instructor
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- Training notes updated
- Upon completion of Milestone GC3 the student will be assigned the S1 KPHX Major Ground exam
 - Exam is untimed and open book. It is highly encouraged that you take your time, research and review each question thoroughly

4.4 Milestone GC4 – KPHX OTS

An OTS exam for the KPHX S1 Major Ground rating will be administrated on the SweatBox sever by an Instructor.

4.4.1 Prerequisite Qualifications:

- S1 Rating
- Milestone GC3 completed
- Passing score on S1 KPHX Major Ground exam

4.4.2 OTS Evaluation:

- Student will run through the S1 OTS file and will be graded using the S1 KPHX Major Ground OTS rubric
- Student will be advised of PASS or FAIL score resulting from OTS evaluation
- Upon passing score from OTS exam, student will be issued the S1 Major Ground endorsement for KPHX
- Training notes updated

5 S1 > S2

5.1 Milestone LC1 – Basic Class D / C Operations

Student will mainly focus on departures during this Milestone. This session will take place on the Sweatbox server and should consist of no more than two sessions.

Timeframe: 2 sessions, 3-4 hours

Airfield: KFLG & KABQ

5.1.1 Prerequisite Qualifications:

- S1 Rating
- Milestone GC4 completed
- Passing score on ZAB S2 Knowledge exam
- 5+ combined hours on Class C / D GC or CD positions

5.1.2 Prerequisite Reading:

- S2 sections of ZAB Phraseology Guide
- Albuquerque ATCT SOP (Local Control [LC] sections)
- VATUSA S2 CBTs

5.1.3 Introduction to Basic LC

Student will be introduced to basic LC concepts at KFLG and KABQ. Student is instructed that while this training is only taking place at KFLG & KABQ, the concepts learned can be applied to any Class D / C field.

- Airspace (ceilings, floors and the “- minus” notations on sectional charts)
- VFR outbound
- Traffic pattern legs
- Traffic pattern departures
- Intersection departures
- Rolling releases (Class C only)
- Handoff to Departure
- Landing / Takeoff clearances and what they mean
- LAHSO, LUAW and Runway crossings
- Same Runway separation
- Wake turbulence

5.1.4 SweatBox

- Student will run through two separate situation files on Sweatbox: one for KFLG and one for KABQ and will continue practicing with them until proficiency is demonstrated
 - File 1: KFLG - IFR/VFR with a mix of correct, incorrect and incomplete VFR flight plans
 - File 2: KABQ - IFR/VFR with a mix of correct, incorrect and incomplete VFR flight plans
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- Training notes updated

- Upon completion of Milestone LC1 the student will be assigned the VATUSA S2 TWR exam
 - Exam is untimed and open book. It is highly encouraged that you take your time, research and review each question thoroughly

5.2 Milestone LC2 – Advanced Class D / C Operations

Student will focus on arrivals and VFR pattern procedures during this Milestone. This session will take place on the Sweatbox server.

Timeframe: 1-2 session(s), 2-3 hours

Airfield: KFLG & KABQ

5.2.1 Prerequisite Qualifications:

- Milestone LC1 completed
- Passing score on VATUSA S2 TWR exam

5.2.2 Introduction to Advanced LC

Student will be introduced to advanced LC concepts at KFLG and KABQ. Student is instructed that while this training is only taking place at KFLG & KABQ, the concepts learned can be applied to any Class D / C field.

- VFR in the pattern, including pattern entry phraseology
 - Legs of the pattern that follow others
- Landing clearances:
 - Touch-and-Go
 - Stop-and-Go
 - Short Approach
 - Low Approach
 - Full stop
 - Cleared for the Option
- Transitioning VFR aircraft
- Traffic point-outs (using non-radar phraseology), “follow”
- Separation & sequencing techniques:
 - Extended UW / CW / DW
 - 360s
 - Crossing over the field
 - Breaking planes out of the pattern
- Sidestep / Runway changes
- IFR releases from Class D fields
- Pop-up IFR clearances in the pattern
- IFR Missed Approach Procedures / Instructions
 - VFR Practice Approach and Missed Approach Procedure
- Military procedures:
 - Overhead maneuver
 - Simulated flameout
 - “Check gear down”
- Helicopter operations:
 - Departure from active Runway
 - Departure from movement area (other than active Runway)
 - Departure from non-movement area
 - Arrival to active Runway

- Arrival to movement area (other than active Runway)
- Arrival to non-movement area

5.2.3 SweatBox

- Student will run through two separate situation files on Sweatbox: one for KFLG and one for KABQ and will continue practicing with them until proficiency is demonstrated
 - File 1: KFLG - IFR/VFR with a mix of correct, incorrect and incomplete VFR flight plans
 - File 2: KABQ - IFR/VFR with a mix of correct, incorrect and incomplete VFR flight plans
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- New reading material for all Class C / D operations will be assigned for next Milestone
- Training notes updated

5.3 Milestone LC3 – Class C Tower Live Monitoring

Once the student has completed LC2, they are cleared for training on the live network under the supervision of a Mentor / Instructor. The student shall put in at least one hour at each Class C airport listed. It is highly encouraged to use your time in LC3 wisely.

Timeframe: 5+ hours

Airfield: KABQ, KTUS, KELP, KAMA

5.3.1 Prerequisite Qualifications:

- S1 Rating
- Milestone LC2 completed

5.3.2 Live Monitoring

- Upon completion of Milestone LC3, **S2 rating with Minor TOWER endorsement will be issued**

5.4 Milestone LC4 – Class B Operations

Student starts training at KPHX. At least two sessions are to be conducted here: at least one session on SweatBox and one session on the live network. An OTS exam and/or checkout by an Instructor is required prior to being able to control solo at KPHX, regardless of one's rating.

Timeframe: 2-4 sessions, 6+ hours total

Airfield: KPHX

5.4.1 Prerequisite Qualifications:

- S2 Rating
- Milestone GC4 and LC3 completed
- 10+ combined hours on PHX_GND or PHX_DEL

5.4.2 Prerequisite Reading:

- Phoenix ATCT SOP (LC section)
- P50 / PHX ATCT LOA
- ZAB / ZLA LOA (specifically the sections that pertain to KPHX)

5.4.3 LC Procedures at KPHX

Student is introduced to LC concepts at KPHX:

- Phoenix Class B airspace layout
- Phoenix Tower delegated airspace
- In-the-air Class B clearances
- Phoenix VFR corridor
 - East / West transitions
- Rolling releases

5.4.4 SweatBox

- Student will run through two separate situation files for KPHX on Sweatbox and will continue practicing with them until proficiency is demonstrated:
 - File 1: IFR/VFR with complete and correct flight plans
 - File 2: IFR/VFR with a mix of correct, incorrect and incomplete VFR flight plans
- Student shall conduct at least four hours of training on the live network under the supervision of a Mentor / Instructor
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- Training notes updated
- Upon completion of Milestone LC4 the student will be assigned the ZAB S2 Major TWR exam
 - Exam is untimed and open book. It is highly encouraged that you take your time, research and review each question thoroughly

5.5 Milestone LC5 – KPHX Self-Monitored Training (SMT)

Upon completion of Milestone LC4, a Mentor / Instructor can recommend a Student for SMT certification (per ZAB 7210.002 section 6). It is highly encouraged to use your time in LC5 wisely.

Timeframe: 5+ hours

Airfield: KPHX

5.5.1 Prerequisite Qualifications:

- S2 Rating
- Milestone LC4 completed
- Passing score on ZAB S2 KPHX Major exam

5.6 Milestone LC6 – KPHX OTS

An OTS exam for the KPHX S2 Major Tower rating will be administrated live on the network by an Instructor.

5.6.1 Prerequisite Qualifications:

- S2 Rating
- Milestone LC5 completed
- 5+ hours SMT on PHX_TWR

5.6.2 OTS Evaluation:

- Student will be graded using the S2 KPHX Major OTS rubric
- Student will be advised of PASS or FAIL score resulting from OTS evaluation
- Upon passing score from OTS exam, student will be issued the S1 Major Tower endorsement for KPHX
- Training notes updated

6 S2 > S3

6.1 Milestone AD1 – Basic Class C Operations

Student will begin initial AD Milestone training at KABQ. A minimum of two sessions shall be conducted on the SweatBox server.

Timeframe: 2+ sessions, 4+ hours

Focus TRACON: KABQ

6.1.1 Prerequisite Qualifications:

- S2 Rating
- Milestone LC3 completed
- 10+ combined hours on Class D / C LC positions

6.1.2 Prerequisite Reading:

- S3 section of ZAB Phraseology Guide
- VATUSA S3 CBT
- Albuquerque TRACON SOP
- Instrument Approach Procedure (IAP) Guide

6.1.3 Basic Radar Theory

Student will be introduced to basic Class C TRACON concepts at KABQ. Student will mainly focus on departures during this Milestone.

- Airspace Classes and aircraft entry requirements
 - Class D
 - Class C
 - Class B
 - Class A
- Aircraft equipment suffixes
- Cruising altitudes
 - NE ODD / SW EVEN
 - VFR altitudes
 - RVSM
- Airspace layouts and chart reading
 - Sectional
 - TAC

- SID
- Instrument Departure Procedures
 - RNAV
 - RNAV Hybrid
 - Radar Vected
 - Obstacle Departure Procedures (ODP)
- Separation requirements in Class C / D / E
 - VFR / VFR
 - VFR / IFR
 - IFR / IFR
- Obstruction / Obstacle avoidance
 - Minimum Enroute Altitude (MEA)
 - Minimum Vectoring Altitude (MVA)
 - Minimum Obstruction Clearance Altitude (MOCA)
 - Minimum IFR Altitude (MIA)
- Merging target procedures and safety alerts
 - Visual separation
 - Traffic calls
 - Traffic alerts
 - Terrain / obstruction alerts
- Radar identification
 - Primary target
 - Secondary target
- VFR Procedures
 - VFR departures
 - Flight Following
 - Transitions
 - VFR-On-Top
- ATC coordination
 - Point-outs
 - APREQ
 - Handoffs

6.1.4 **SweatBox**

- Student will run through two separate situation files for KABQ on Sweatbox and will continue practicing with them until proficiency is demonstrated:
 - File 1: KABQ departures using ATC Radar Vected and RNAV Hybrid SIDs
 - File 2: KABQ departures using RNAV SIDs
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- Training notes updated
- Upon completion of Milestone AD1 the student will be assigned the VATUSA S3 exam
 - Exam is untimed and open book. It is highly encouraged that you take your time, research and review each question thoroughly

6.2 Milestone AD2 – Advanced Class C Operations

Student will be introduced to advanced Class C TRACON concepts at KABQ and outlying satellite fields focusing on both arrivals and departures. Student is instructed that while the sessions conducted during Milestones AD1 and AD2 will focus on the Albuquerque TRACON, the concepts learned can be applied at any Class C TRACON.

Timeframe: 2+ sessions, 4+ hours

Focus TRACON: KABQ

6.2.1 Prerequisite Qualifications:

- Milestone AD1 completed
- Passing score on VATUSA S3 exam

6.2.2 Advanced Radar Theory

- Airspace splits and chart reading
 - STARs
 - IAP
- RNAV vs Non-RNAV STARs
- Precision vs Non-Precision Approaches
 - VOR / DME
 - NDB
 - TACAN
 - ILS
 - Localizer / Localizer Back Course
 - RNAV / RNP / GPS
 - Visual
- Reading Instrument Approach Procedures (IAP)
 - Pilot briefing and procedure notes
 - Plan view
 - Profile view
 - Minimum Safe Altitude (MSA)
 - Minimums
 - Aircraft Approach Categories
 - Initial Approach Fix (IAF)
 - Intermediate Fix (IF)
 - Final Approach Fix (FAF)
 - Missed Approach Point (MAP)
 - Procedure Turns
 - Holding Patterns
- Wake Turbulence Separation
- Visual Separation
- Merging Target Procedures
 - Traffic call
 - Traffic alert
 - Visual separation
- Sequencing Techniques
 - Vectoring
 - Speed restrictions
- Cancellation of Radar Services
 - VFR

- IFR
- Vectoring Methods
 - Direction and heading to turn to
 - Direction and a number of degrees to turn
 - No-gyro vector
 - Heading to fly after a fix
- Area vs Non-Area Navigation
 - Aircraft equipment suffixes / capabilities
 - Differentiating between “DIRECT” and “PROCEED DIRECT WHEN ABLE” clearances
- The PTAC Acronym
 - **P** – Position
 - **T** – Turn
 - **A** – Altitude
 - **C** – Clearance
- Vectoring to the Final Approach Course
 - Aircraft must be vectored to join the localizer or final approach course at 30 degrees or less if greater than two miles from the final approach fix, or less than 20 degrees if less than two miles from the final approach fix (if applicable), and 45 degrees if a helicopter
 - Traffic pattern like; 90 degree turns
- Visual Approaches
 - Can only be issued to IFR aircraft operating in visual conditions and clear of clouds
 - Pilot must report the field in sight or preceding aircraft going to that airport in sight
- Uncontrolled Field Operations
 - One-In-One-Out Rule
 - IFR Releases
 - Clearance Void Time (if applicable)
 - IFR Arrivals
 - Approach selection
 - Visual Approaches
 - Traffic advisories
 - IFR cancellation
 - In the air
 - On the ground
- Holding
 - Standard holding pattern (turns / minutes)
 - Published holds
 - Clearance Limit
 - Holding fix / waypoint
 - Cardinal direction of hold
 - Radial, course, bearing, track, azimuth, airway
 - Leg lengths in minutes (miles if necessary)
 - Direction of turns if non-standard left turns are to be made
 - Expect Further Clearance Time (EFCT)
- Pop-up IFR Clearances
- VFR Flight Following
 - Traffic advisories
 - Terminating VFR services
- IFR to VFR On-Top
- Practice VFR Approaches
 - Separation services / requirements
 - Missed approaches

6.2.3 SweatBox

- Student will run through two separate situation files for KABQ on Sweatbox and will continue practicing with them until proficiency is demonstrated:
 - File 1: KABQ departures using ATC Radar Vected and RNAV SIDs
 - File 2: KABQ/KAEG/E80 IFR/VFR arrivals and departures
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- Training notes updated

6.3 Milestone AD3 – Class C TRACON Live Monitoring

Student will connect to the live network under the supervision of a Mentor / Instructor. It is recommended that a minimum of 2 hours should be spent controlling at each of the Class C TRACONS. It is highly encouraged to use your time in AD3 wisely.

Timeframe: 10+ hours

Focus TRACONS: KAMA, KABQ, KELP, U90

6.3.1 Prerequisite Qualifications:

- S2 Rating
- Milestone AD2 completed

6.3.2 Live Monitoring

- Upon completion of Milestone AD3, **S3 rating with Minor TRACON endorsement will be issued**

6.4 Milestone AD4 – Departure Procedures – *THE P50 TRACON*

Student will be introduced to departure concepts in a Class B TRACON environment. The P50 Milestones require significant work and practice; however, training will begin with KPHX departures and then layer on more complex scenarios with each Milestone.

Timeframe: 5+ hours, 2+ sessions

Focus TRACON: P50

6.4.1 Prerequisite Qualifications:

- S3 Rating
- Milestones AD3 and LC6 completed

6.4.2 Prerequisite Reading:

- P50 TRACON SOP
- P50 TRACON / ZAB SOP
- Phoenix VFR Guide

6.4.3 SweatBox

- Student will run through two separate situation files on Sweatbox and will continue practicing with them until proficiency is demonstrated:
 - File 1: IFR KPHX departures, “top down”

- File 2: VFR and IFR KPHX departures, “top down”
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- Training notes updated

6.5 Milestone AD5 – Arrival Procedures – *THE P50 TRACON*

Student will be introduced to arrival concepts in a Class B TRACON environment.

Timeframe: 5+ hours, 2+ sessions

Focus TRACON: P50

6.5.1 Prerequisite Qualifications:

- Milestone AD4 completed

6.5.2 SweatBox

- Student will run through two separate situation files on Sweatbox and will continue practicing with them until proficiency is demonstrated:
 - File 1: IFR KPHX departures and arrivals, “top down”
 - File 2: VFR and IFR KPHX departures and arrivals, “top down”
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- Training notes updated

6.6 Milestone AD6 – Satellite Procedures – *THE P50 TRACON*

Student will be introduced to satellite field concepts in a Class B TRACON environment.

Timeframe: 5+ hours, 2+ sessions

Focus TRACON: P50

6.6.1 Prerequisite Qualifications:

- Milestone AD5 completed

6.6.2 SweatBox

- Student will run through four separate situation files on Sweatbox and will continue practicing with them until proficiency is demonstrated:
 - File 1: TRACON IFR departures, “top down”
 - File 2: TRACON VFR and IFR departures, “top down”
 - File 3: TRACON IFR departures and arrivals, “top down”
 - File 4: TRACON VFR and IFR departures and arrivals, “top down”
- A debrief will be conducted on the topics and material that were covered in the training session and any questions will be answered
- Training notes updated

- Upon completion of Milestone AD6 the student will be assigned the S3 KPHX P50 Major Facility Rating exam
 - Exam is untimed and open book. It is highly encouraged that you take your time, research and review each question thoroughly

6.7 Milestone AD7 – Live Monitoring – *THE P50 TRACON*

Student will connect to the live network under the supervision of a Mentor / Instructor. The student shall put in at least 10 hours of controlling time at the TRACON, although more time is encouraged. It is highly encouraged to use your time in AD7 wisely.

Timeframe: 10+ hours

Focus TRACON: P50

6.7.1 Prerequisite Qualifications:

- Passing score on the S3 KPHX P50 Major Facility Rating exam
- Milestone AD6 completed

6.8 Milestone AD8 – Self-Monitored Training (SMT) – *THE P50 TRACON*

Upon completion of Milestone AD7, a Mentor / Instructor can recommend a Student for SMT certification (per ZAB 7210.002 section 6). It is highly encouraged to use your time in AD8 wisely.

Timeframe: 10+ hours

Focus TRACON: P50

6.8.1 Prerequisite Qualifications:

- S3 Rating
- Milestone AD7 completed

6.9 Milestone AD9 – OTS – *THE P50 TRACON*

An OTS exam for the P50 Major rating will be administrated live on the network by an Instructor.

Timeframe: 1 session, 3 hours

Focus TRACON: P50

6.9.1 Prerequisite Qualifications:

- Milestone AD8 completed
- 10+ hours SMT on PHX_APP
- S3 rating

6.9.2 OTS Evaluation:

- Student will be graded using the S3 P50 Major OTS rubric
- Student will be advised of PASS or FAIL score resulting from OTS evaluation
- Upon passing score from OTS exam, student will be issued the S3 Major Approach endorsement for P50
- Training notes updated

7 S3 > C1

7.1 Milestone EN1 – Live Monitoring – Albuquerque Center

When a student expresses interest in beginning C1 training, they will be issued the ZAB C1 Knowledge exam. This exam will test the student's ability to use their resources. All answers to questions on this exam can be found in documentation on either VATUS or ZAB websites. **Due to the requirement by GRP to provide "top down" services as a Center, the student must be S3 Major certified to being C1 training.**

Timeframe: 10+ hours

7.1.1 Prerequisite Qualifications:

- S3 rating
- Milestone AD9 completed
- Passing score on ZAB C1 Knowledge exam
- 10+ hours on each TRACON (P50, U90, KABQ, KAMA, KELP)

7.1.2 Prerequisite Reading:

- Albuquerque Center SOP
- ZAB / ZLA LOA
- ZAB / ZDV LOA
- ZAB / ZKC LOA
- ZAB / ZFW LOA
- ZAB / ZHU LOA

7.1.3 Enroute Concepts:

- IFR uncontrolled
- MIA
- Routing shortcuts
- Speed separation (enroute spacing)
- Holding
- Weather deviations and hazardous weather advisories
- IAS < FL300, Mach Number > FL300

7.1.4 Live Monitoring

- Upon completion of Milestone EN1 the student will be assigned the VATUSA C1 exam
 - Exam is untimed and open book. It is highly encouraged that you take your time, research and review each question thoroughly

7.2 Milestone EN2 – Self-Monitored Training (SMT) – Albuquerque Center

Upon completion of Milestone EN1, a Mentor / Instructor can recommend a Student for SMT certification (per ZAB 7210.002 section 6). It is highly encouraged to use your time in EN2 wisely.

Timeframe: 10+ hours

7.2.1 Prerequisite Qualifications:

- S3 rating
- Milestone EN1 completed
- Passing score on VATUSA C1 exam

7.3 Milestone EN3 – OTS – Albuquerque Center

An OTS exam for the C1 rating will be administrated live on the network by an Instructor. A supervisor will announce the OTS and the student will be graded using the OTS rubric.

Timeframe: 1 session, 3 hours

7.3.1 Prerequisite Qualifications:

- S3 rating
- Milestone EN2 completed
- 10+ hours of SMT on ABQ_CTR

7.3.2 OTS Evaluation:

- Student will be graded using the C1 Center OTS rubric
- Student will be advised of PASS or FAIL score resulting from OTS evaluation
- Upon passing score from OTS exam, student will be issued the C1 rating with all endorsements
- Training notes updated

8 Approval



Chris Knepper
Training Administrator
Albuquerque ARTCC