

VATSIM NETWORK  
UNITED STATES DIVISION  
ZME ARTCC

**ORDER**  
**ZME ARTCC**  
**3120.4A**

**SUBJ: Training Procedures and Guidelines**

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This Order prescribes the training procedures and guidelines for students and instructors of the Memphis ARTCC.

(SIGNED)

Richard Sill  
Air Traffic Manager  
Memphis ARTCC

(SIGNED)

Jeffrey Sydenham  
Deputy Air Traffic Manager  
Memphis ARTCC

(SIGNED)

Cardin Pelletier  
Training Administrator  
Memphis ARTCC

(SIGNED)

Rick Rump  
Training Director  
VATUSA

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## 1. DEFINITIONS

- 1-1 Instructor. For the purposes of this document, "instructor" refers to a member of the instructor staff. Unless otherwise differentiated in a part of subsection, "instructor" means mentor, instructor or training administrator.
- 1-2 Late cancel. For the purposes of this document, "late cancel" refers to the cancellation within the hour prior to a scheduled training session.
- 1-3 Miss. For the purposes of this document, "miss" or tenses thereof, refers to the action of arriving more than 15 minutes past a scheduled training session.
- 1-4 Network controlling hour. For the purpose of this document, "network controlling hour" refers to time spent on the live Network working an operational position which requires a minimum rating which the controller holds.
- 1-5 Student. For the purposes of this document, "student" refers to a controller who holds ZME roster status as either a home or visiting controller and who holds at least an OBS rating for a home controller and at least an S1 rating for a visiting controller.

## 2. TRAINING REQUESTS

2-1 Training requests shall be made either via e-mail request or via verbal request.

### 2-1-1 Email Request.

The student may e-mail the instructor staff to request training by utilizing the [instructors@vzmearc.com](mailto:instructors@vzmearc.com) address. When e-mailing a training request, the student should include the following information.

- [1] The intent to request training.
- [2] Availability to include date and time range or a combination of both up to 7 days or as far as can be determined, whichever is less.
- [3] Full name, as registered on the Network.

### 2-1-2 Verbal Request.

The student may request training verbally, or "in-person" via the ZME ARTCC Teamspeak server by locating a member of the training staff, designated by an "I" or an "M" designation tag for Instructor or Mentor, respectively, and advising them of the intent to request training.

### 3. INSTRUCTOR STAFF

#### 3-1 General.

3-1-1 The Instructor Staff is comprised of training personnel in one of three roles.

3-1-1-1 Training Administrator. The Training Administrator (TA) provides leadership on all aspects of training and manages training programs, policies and procedures, including development of training materials, selection and oversight of instructional staff and monitoring currency and capabilities of controllers. The TA performs the functions of Instructor, as defined in this part as necessary to meet the training needs of the Facility.

3-1-1-2 Instructor. The Instructor trains and promotes students through all controller ratings and conducts controller checkouts and issues controller endorsements.

3-1-1-3 Mentor. The Mentor trains students and recommends controller rating adjustments, endorsement issuance and exam assignment to the TA.

#### 3-2 Eligibility.

3-2-1 In order to be considered for appointment of mentor or instructor the candidate must meet the following requirements.

##### 3-2-1-1 Mentor.

[1] Must hold home controller status.

[2] Must be in good standing with VATSIM, VATUSA, and the ZME ARTCC and have no history of disciplinary action by VATSIM, VATUSA, or the ZME ARTCC.

[3] Must hold at least an S2 rating.

3-2-1-2 Instructor. Instructors will be considered eligible in accordance with VATUSA Order [3120.311](#).

### 3-3 Limitations.

3-3-1 Instructors and Mentors may train students in accordance with the following limitations.

3-3-1-1 Instructors may train students holding any controller rating.

3-3-1-2 Mentors may train students who are compatible as indicated by the shaded areas in the following matrix.

	Student Rating					
	OBS	S1	S2	S3	S3+	C1
Mentor Rating	S2					
	S3					
	S3+					
	C1					
	C1+					

\*S3+ indicates S3 rating with Major endorsement. C1+ indicates C1 rating with at least 150 logged hours in-rating.

3-3-1-3 The limitations of 3-3-1-2 may be waived on a case-by-case basis by the TA to meet the training needs of the facility.

### 3-4 Currency.

3-4-1 Instructors and mentors must log a minimum of 3 network controlling hours per 30 days.

3-4-2 Instructors and mentors must conduct 1 training session per 60 days.

3-4-3 Instructor and mentor currency requirements may be waived by the TA on a case-by-case basis.

### 3-5 Termination.

3-5-1 Mentors may be removed from the instructor staff by the TA at any time and for any reason, without cause. Mentors may be removed if an event occurs which affects eligibility as defined in 3-2-1 or if the mentor does not regain currency as defined in 3-4 after a grace period of 30 days.

3-5-2 Instructors may be removed from the instructor staff by the TA if an event occurs which affects eligibility as defined in VATUSA Order [3120.311](#) or if the instructor does not regain currency as defined in 3-4 after a grace period of 30 days.

### 3-6 Procedure.

#### 3-6-1 General.

3-6-1-1 Instructors shall conduct training in accordance with VATUSA Order 3120.4 Division Training Policy and this Order.

3-6-1-1 Instructors should use a combination of classroom, practical training on the Sweatbox Network and on-the-job training (OJT) conducted live on the Network.

3-6-1-2 It is recommended that a student's training for a particular rating be made up of approximately 70 percent classroom and Sweatbox Network training and 30 percent OJT. This ratio allows for the best use of time and the student can learn the necessary fundamentals in a controlled environment and then practice applying them live on the Network.

#### 3-6-2 Documentation

3-6-2-1 After each training session, the instructor shall produce a training evaluation on the ARTCC website. The training evaluation should include at least the following:

- [1] session type (classroom, sweatbox, OJT)
- [2] items/concepts discussed, referencing specific domain IDs in the VATUSA 3120.4
- [3] any practical training or practice that was performed
- [4] any additional notes, such as deficiencies or suggested additional practice on certain areas or concepts.

3-6-2-2 When conducting an over-the-shoulder (OTS) exam for a controller rating, VATUSA form 3120-25 must be completed and sent to the TA for filing.

3-6-2-3 When conducting a practical exam for a major endorsement, the ZME form 3120-25 must be completed and sent to the TA for filing.

## 4. EXPECTATIONS

### 4-1 General.

4-1-1 A mutual understanding should exist between instructors and students that activities on the Network are a hobby and real-world activities generally will take precedent over Network activities. Real-world obligations may arise with short or no notice that may require activities to be canceled or rescheduled with little or no advanced notice. Students and instructors should, however, be respectful of each other's time and understand that instructors are volunteering their time and that students are also volunteering their time. Discretion will be given in this part with these principles in mind.

4-1-2 Training will be provided on a first-come, first-serve basis.

4-1-3 Students who are active should expect a minimum of 1 training session per week. Training frequency may vary depending on instructor availability and training demand. Reasonably accommodations will be provided by the ARTCC to ensure each student is receiving adequate training.

### 4-2 Student.

4-2-1 Students shall make reasonable efforts to be connected to the ZME Teamspeak server and be prepared for training on-time. If a student arrives more than 15 minutes late for a schedule training session, the student may be asked to reschedule and the session may be considered missed.

4-2-2 Students shall advise their instructor as soon as possible, but no later than 1 hour prior to the scheduled training session of a need to reschedule. Canceling or rescheduling within the hour prior to the schedule session may be considered a late cancel.

4-2-3 Students will be given 1 grace missed training session or late cancel per rating. After 3 missed training sessions or 3 late cancels, or a combination thereof, a recommendation may be given by the TA to remove the student from the roster on the basis of inactivity or a waiting period of up to 30 days may be enacted before the student can again obtain training.

### 4-3 Instructor.

4-3-1 Instructors shall make reasonable efforts to be connected to the ZME Teamspeak server and be prepared for training on-time. It is recommended that an additional 20 minutes be allotted per scheduled training session to review student training records and to set up simulator scenarios or training materials.

4-3-2 Instructors shall advise the student as soon as possible of a need to reschedule a training session, but no later than 1 hour prior to the scheduled session.

4-3-3 Instructors are subject to student review and may be subject to termination if it is determined that the instructor consistently performs late cancels or misses scheduled sessions.

4-4 Instructor Review.

[RESERVED]

## 5. COURSE CONTENT

5-1 Notice.

5-1-1 This part includes general course descriptions for each controller rating. Outside of the required items for each rating as indicated in VATUSA Order 3120.4, additional topics may be covered at the discretion of the student and instructor. Additionally, average training times for each rating are approximate and may be longer or shorter depending on how long the student takes to reach proficiency.

5-2 S1 Rating. The student will learn phraseology and procedure associated with controlling the clearance delivery and ground control positions. Additionally, students will learn local procedure and understand how to apply learned phraseology and procedure to various facilities within the ZME area of operation. Once all required items have been covered and the student demonstrates proficiency, they will be awarded the S1 rating and will be allowed to control positions at all terminal facilities within the ARTCC. This rating does not require a formal practical (OTS) exam. Average training time is 4-8 hours.

5-3 S2 Rating. The student will learn phraseology and procedure associated with controlling the local control position. Students will be able to issue landing and takeoff clearances, lineup and wait instructions, work pattern traffic and apply approved methods of separation to aircraft. Student will become proficient at applying fundamentals to the various facilities within the airspace. Students will learn local procedure and the differences in local procedure between the various terminal facilities. Once proficient, students will be able to control all tower/local control positions within the airspace. Students will be eligible for solo certification in accordance with the ZME Training Field [Policy](#). Average training time 5-10 hours.

5-4 S3 Rating. The student will learn phraseology and procedure associated with controlling an approach control position. Student will learn the principles of working in a radar environment and learn the methods, procedures and techniques necessary to move traffic efficiently and safely using approved means of separation. Student will learn the methods of speed control, sequencing and vectoring in order to develop an efficient flow of traffic. The student will be able to adapt this knowledge to various radar facilities within the airspace. Once certified, students will be able to control all minor approach control positions within the ARTCC. Students will be eligible for solo certification in accordance with the ZME Training Field Policy. Average training time 10-16 hours.

5-5 S3 Rating Major Endorsement. Students will learn the intricacies of working approach control positions at the M03 Memphis TRACON. Students will undergo training on specific positions and learn to master the procedures and responsibilities of those positions. Students will learn to work a higher volume of traffic with more precision while separating aircraft from each other and adjacent airspace. Students will be introduced to more advanced traffic management and control techniques to achieve desired results. Average training time 4-8 hours.

5-6 C1 Rating. Student will learn the phraseology, procedure and techniques associated with controlling traffic in the enroute environment. Students will become knowledgeable on Letters of Agreement between adjacent facilities and how to apply them. Students will develop traffic flow sequences into airports and learn to manage multiple terminal facilities at a time. Students will learn spacing techniques and using basic time/distance/speed calculations to achieve desired spacing into an airport or over a fix. Students will be eligible for solo certification in accordance with the [ZME SOP](#). Average training time 8-15 hours.5.

## 6. M03 TRACON ENDORSEMENT

### 6-1 Eligibility.

6-1-1 Students who hold at least an S3 rating, have received training and have passed the written and practical exam will receive an endorsement to work the operational positions of the M03 Terminal Radar Approach Control (TRACON) facility.

### 6-2 Written Exam

6-2-1 Prior to being eligible to take the practical exam, students must pass the written exam with a minimum score of 80%.

6-2-2 The written test is not timed and students shall be allowed to use any resources available to them, excluding other controllers and training staff.

6-2-3 The written test is comprised of a bank of questions of which 30 will be asked. The test covers the following subject matter:

#### 6-2-3-1 [FAA JO 7110.65](#)

- 2-1 General Control
- 4-6 Holding Aircraft
- 4-8 Approach Clearance Procedures
- 5-6 Vectoring
- 5-7 Speed Adjustment
- 5-9 Radar Arrivals
- 7-4 Approaches
- 7-9 Class B Service Area- Terminal

#### 6-2-3-2 [Aeronautical Information Manual \(AIM\)](#)

6-5-12 Visual Separation



## 6-4 Procedure

- 6-4-1 Prior to conducting the practical exam, the student must have taken and passed the M03 TRACON Endorsement written exam which may be assigned and taken using the VATUSA Exam Center.
- 6-4-2 The student should receive training on each or a combination of each operational position within the facility and the instructor shall make a determination of when the student is adequately prepared to take the written and practical exam.
- 6-4-3 Any Job Subtask items not observed shall be marked as "not observed" and shall be verbally tested and marked as "satisfactory" or "unsatisfactory" as appropriate.
- 6-4-4 Instructors should use their best judgment on whether or not a student satisfactorily or unsatisfactorily performs a job subtask based on all of the circumstances. In general, a practical exam with over 3 job subtasks marked as "unsatisfactory" should be considered failed. However, any exam with an unsatisfactory marking can be considered failed if the instructor deems the error be egregious, such as a loss of separation which causes a near miss or TCAS RA.

## 6-5 Job Task Guidance

- 6-5-1 In order to guide instructors in determining whether or not the student has satisfactorily or unsatisfactorily completed a job subtask, reference the guidance on the following pages.

### Job Task: Separation

<b>Job Subtask</b>	<b>Indicator</b>
<b>1. Separation is ensured.</b> Provides control instructions or restrictions to ensure separation standards are maintained at all times.	<b>a.</b> Issues appropriate control instructions or restrictions, including speed control, vectoring techniques, and visual separation. <b>b.</b> Ensures traffic entering/departing his/her airspace is not in conflict or about to lose separation. <b>c.</b> Obtains specific approval prior to entering another position's/facility's area or jurisdiction.
<b>2. Safety alerts are provided.</b> Recognizes that safety alerts are a first-priority duty along with separation of aircraft, and remains constantly alert for unsafe proximity situations.	<b>a.</b> Informs pilot or appropriate controller when an unsafe situation has been observed. <b>b.</b> Issues alternate course of action when feasible. <b>c.</b> Issues safety alerts to IFR/VFR conflicts.

### Job Task: Coordination

<b>Job Subtask</b>	<b>Indicator</b>
<b>3. Performs handoffs/pointouts.</b>	Performs handoffs/pointouts correctly and at the appropriate time/position.
<b>4. Required coordination is performed.</b> Coordinates all information that is pertinent to the situation. Ensures that personnel receiving the information have all the contents. Acknowledges all information received on position.	<b>a.</b> Coordinates restrictions or special instructions. <b>b.</b> Verifies and acknowledges all information exchanges.

### Job Task: Control Judgement

<b>Job Subtask</b>	<b>Indicator</b>
<b>5. Good control judgment is applied.</b> Issues control instructions or restrictions that are correct. Carefully plans procedures prior to issuing instructions to provide a safe, expeditious traffic flow.	<b>a.</b> Uses correct speed control procedures/techniques. <b>b.</b> Applies effective vectoring techniques. <b>c.</b> Considers aircraft performance capabilities in control decisions and demonstrates awareness of aircraft equipment capabilities and limitations that affect ATC instructions. <b>d.</b> Uses control procedures that do not place workload or stress on other

	<p>controllers/facilities.</p> <p><b>e.</b> Does not terminate or activate radar control prematurely.</p>
<p><b>6. Prioritization of duties is understood.</b> Properly prioritizes actions according to their significance in the overall traffic situation.</p>	<p><b>a.</b> Maintains situational awareness.</p> <p><b>b.</b> Performs duties in the order of their importance.</p>
<p><b>7. Positive control is provided.</b> Takes command of control situations and does not act in a hesitant or unsure manner.</p>	<p><b>a.</b> Demonstrates confidence and takes command of control situations.</p> <p><b>b.</b> Maintains positive control during stressful situations.</p>
<p><b>8. Effective traffic flow is maintained.</b> Takes into account aircraft characteristics and their effect on traffic flow.</p>	<p><b>a.</b> Provides orderly traffic flow with proper aircraft spacing and avoids use of excessive separation/restrictions.</p> <p><b>b.</b> Considers aircraft characteristics and their effect on traffic flow and properly sequences traffic.</p>

**Job Task: Methods and Procedures**

<b>Job Subtask</b>	<b>Indicator</b>
<p><b>9. LOAs/directives are adhered to.</b> Ensure performance of control instructions/duties is in compliance with handbooks, facility procedures and directives.</p>	<p><b>a.</b> Adheres to LOA requirements.</p> <p><b>b.</b> Adheres to facility directives and local routing instructions.</p>
<p><b>10. Appropriate scratchpad entries are used.</b> Uses appropriate scratchpad entries that reflect appropriate information.</p>	<p><b>a.</b> Assigns appropriate scratchpad entries upon initial runway assignment.</p> <p><b>b.</b> Changes or coordinates with MEM ATCT when scratchpad entries do not reflect aircraft status.</p>
<p><b>11. Maintains awareness of the control environment.</b> Checks assigned control environment for changes.</p>	<p><b>a.</b> Scans assigned control environment for potential errors or conflicts.</p> <p><b>b.</b> Acts rapidly to correct errors.</p> <p><b>c.</b> Recognizes when incorrect information has been passed to aircraft or other positions.</p> <p><b>d.</b> Remains alert for possible problem situations from other controllers/facilities.</p>
<p><b>12. Effective working speed is maintained.</b> Paces control actions and associates tasks at an acceptable rate.</p>	<p><b>a.</b> Aircraft are handled on a first-come first-serve basis and as priority dictates.</p> <p><b>b.</b> Aircraft are not delayed for excessive periods.</p> <p><b>c.</b> Only necessary transmissions and</p>

	control instructions are made. <b>d.</b> Tasks are completed in a reasonable amount of time.
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**Job Task: Communication**

<b>Job Subtask</b>	<b>Indicator</b>
<b>13. Uses prescribed phraseology.</b> Uses words and phrases in accordance with the requirements of the duty being performed.	<b>a.</b> Uses approved procedures, words, phrases and formats. <b>b.</b> Issues instructions that are specific.
<b>14. Makes only necessary transmissions.</b> Transmits only required information over radio.	<b>a.</b> Transmits only required information/instructions. <b>b.</b> Does not use abusive or profane language on the radio. <b>c.</b> Does not transmit separate message when it would be more effective to combine information.
<b>15. Communication is clear and concise.</b> Ensures that all data passed or received are understood. Does not have to repeat information using different words to convey the intended meaning.	<b>a.</b> Demonstrates professional, positive voice. <b>b.</b> Demonstrates moderate, rather than too fast or too slow, speech rate. <b>c.</b> Listens carefully and verifies that correct information is transmitted and received. <b>d.</b> Demonstrates clear pronunciation. <b>e.</b> Does not transpose words or numbers.
<b>16. Relief briefings are complete and accurate.</b> Ensures that duty familiarization and transfer of position responsibility are complete and accurate.	<b>a.</b> Communicates overall traffic situation. <b>b.</b> Ensures that unresolved questions about the operation of the position are resolved before transfer of responsibility.

**Job Task: DR-A/V**

<b>Job Subtask</b>	<b>Indicator</b>
<b>17. Vectors ELVIS DPs to the filed transition.</b> Manages departing aircraft and correctly identifies and vectors the aircraft to the correct departure gate.	<b>a.</b> Quickly identifies and notes pertinent routing information for departing aircraft and appropriate vectors the aircraft to the correct ELVIS transition.
<b>18. Vectors ELVIS DPs to be established prior to the boundary.</b> Ensures ELVIS departures are established on the transition within a reasonable distance to be established prior to the M03/ZME boundary.	<b>a.</b> Maintains and organized departure traffic flow. <b>b.</b> Establishes departures on the appropriate ELVIS transition at a consistent distance so as to not have excessive cross-over between aircraft on various departure transitions.

<p><b>19. Effectively manages successive prop/jet departures.</b> Ensures props are kept at a lower altitude and are climbed reference the jet traffic so as to not cause conflicts.</p>	<p><b>a.</b> Ensures jet aircraft are climbed over top of prop aircraft and prop aircraft are climbed reference jet traffic.</p>
<p><b>20. Demonstrates understanding of P-ACP airspace.</b> Understands appropriate use of the P-ACP airspace and correctly applies procedures.</p>	<p><b>a.</b> Climbs aircraft through P-ACP airspace as necessary and ceases to use P-ACP procedures if they become unpractical.</p>

**Job Task: AR-E/W**

<b>Job Subtask</b>	<b>Indicator</b>
<p><b>21. Utilizes appropriate scratchpad entries.</b> Assigns a correct scratchpad entry to aircraft upon runway and approach assignment.</p>	<p><b>a.</b> Assigns a correct scratchpad entry signifying approach type and runway assignment in a timely manner and coordinates any changes with the appropriate position, as appropriate.</p>
<p><b>22. Assigns appropriate altitudes and speeds.</b> Assigns appropriate altitudes and speeds in accordance with the position and the M03 SOP.</p>	<p><b>a.</b> Ensures aircraft are cleared to the appropriate altitudes and speeds prior to transferring control to the next position. <b>b.</b> Coordinates with the appropriate position when aircraft are cleared to a different altitude or speed other than standard.</p>
<p><b>23. Releases control of aircraft to AR-F/M/N within 30DME.</b> Transfers control of aircraft to the AR-F/M/N position as appropriate.</p>	<p><b>a.</b> Does not delay transfer of aircraft to the AR-F/M/N positions so as to allow the approach sequence to be developed.</p>

**Job Task: AR-F/M/N**

<b>Job Subtask</b>	<b>Indicator</b>
<p><b>24. Assumes control of aircraft within 30DME.</b> Takes control of aircraft and develops the approach sequence within 30DME.</p>	<p><b>a.</b> Understands and applies appropriate provisions of the M03 SOP acts within limitations unless otherwise coordinated.</p>
<p><b>25. Correctly applies wake turbulence separation.</b> Correctly plans for and applies take turbulence separation.</p>	<p><b>a.</b> Ensures wake turbulence separation is applied between aircraft as appropriate.</p>
<p><b>26. Correctly applies separation of aircraft on adjacent localizers.</b> Ensures appropriate diagonal separation is applied</p>	<p><b>a.</b> Ensures separation is maintained until visual separation can be applied and issues speed and or vectors to ensure separation is</p>

between aircraft on adjacent finals.	maintained until such point.
<b>27. Maintains efficient spacing of aircraft on the final approach.</b> Manages the final approach efficiently and ensures a consistent approach flow is maintained.	<p><b>a.</b> Effectively keeps the flow of traffic moving and ensures no unnecessary gaps are present on the approach.</p> <p><b>b.</b> Effectively plans and anticipates the traffic sequence to keep a consistent and efficient flow of traffic moving to the airport.</p>
<b>28. Does not turn opposite bases at the same altitude.</b> Ensures 1,000-foot vertical separation or 3nm separation is applied between aircraft during turn-on to the approach until another form of separation is applied.	<p><b>a.</b> Turns aircraft on to the approach at the appropriate altitudes and in accordance with the M03 SOP.</p> <p><b>b.</b> Ensures aircraft are level at the appropriate altitude prior to turning opposing bases.</p>
<b>29. Issues speed restrictions to manage compression and spacing.</b> Issues appropriate speed instructions to prevent excessive compression on the approach courses.	<b>a.</b> Ensures aircraft maintain appropriate separation until another form of separation can be applied.
<b>30. Provides required separation on converging approach courses.</b> Ensures aircraft landing the converging runway do not tie when in IMC conditions when visual separation cannot be applied.	<b>a.</b> Effectively uses speed control and proper sequencing when vectoring aircraft for converging approaches.

