Federal Aviation Administration

Initial En Route Qualification Training

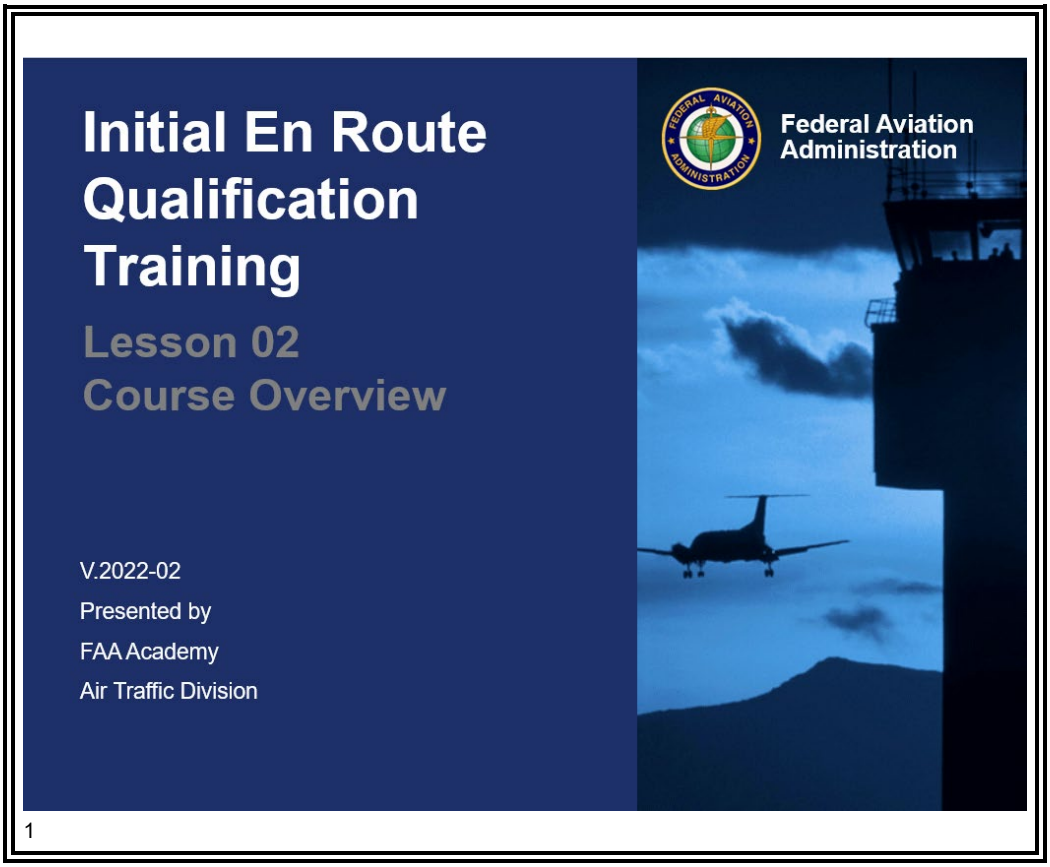
Lesson 02
Course Overview

Course 50148001

LESSON PLAN DATA SHEET

COURSE NAME:	INITIAL EN ROUTE QUALIFICATION TRAINING
COURSE NUMBER:	50148001
LESSON TITLE:	COURSE OVERVIEW
DURATION:	0+45 HOURS
DATE REVISED:	2022-02
VERSION:	V.2022-02
REFERENCE(S):	NONE
HANDOUT(S):	NONE
EXERCISE(S)/ ACTIVITY(S):	NONE
END-OF-LESSON TEST:	NONE
PERFORMANCE TEST:	NONE
MATERIALS:	NONE
OTHER PERTINENT INFORMATION:	APPENDIX A: EVALUATION FORMS

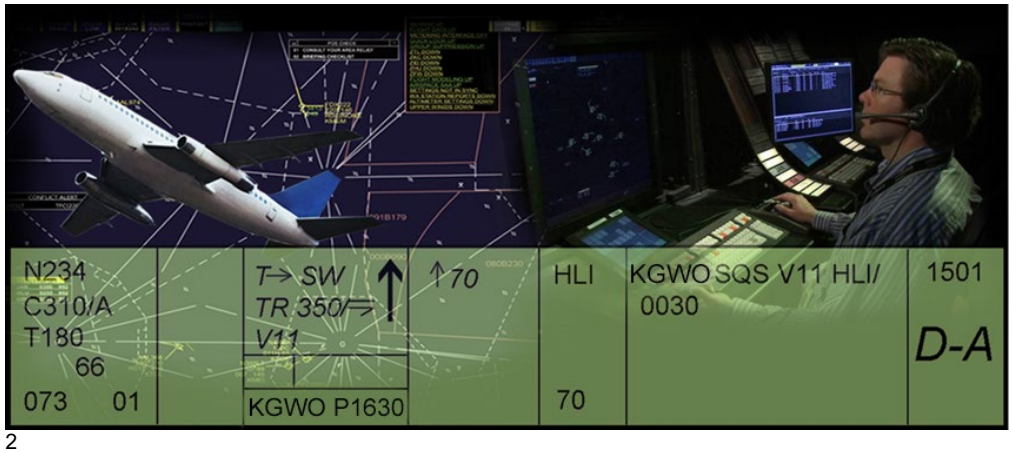
INTRODUCTION



INTRODUCTION *(Continued)*

Overview

COURSE OVERVIEW



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Course 50148001, Initial En Route Qualification Training, will introduce you to the world of the en route controller. This course covers four subject areas organized into “blocks” of instruction.

Purpose

This lesson provides you with an understanding of course 50148001 as well as the grading procedures associated with it.

Lesson Objectives

LESSON OBJECTIVES

- Given an overview of blocks I through IV, you will be familiar with the contents and requirements of each block of instruction in Course 50148001, Initial En Route Qualification Training.

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OVERVIEW

General Course Information

GENERAL COURSE INFORMATION

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- Course 50148001
  - Consists of four blocks:
    - Block I - En Route Fundamentals
    - Block II - Nonradar Lab
    - Block III - Radar Academics
      - → Blocks I, II, and III are taught in the Interactive Instructional Delivery System (IIDS) classroom
    - Block IV - Radar-Associate (RA) Lab
      - → Radar-Associate block is taught in the ERAM (En Route Automation Modernization) lab
  - Academics include:
    - Classroom instruction
    - eLearning activities (Computer-Based Instruction (CBI))
      - → Allows for self-paced learning, practice, and testing
  - Labs include:
    - Skill checks/part-tasks
    - Scenarios

GRADING PROCEDURES

Non-Jeopardy Testing

⊙ End-of-Lesson Tests

- End-of-lesson tests are essentially learning activities that occur at the end of lessons and are designed to check if the student understands the topic(s) that have just been presented before proceeding to the next lesson
- These tests and their results are reviewed by the instructor with the students to identify any items that students do **not** understand or that require further explanation
- The end-of-lesson test does **not** count in terms of a pass/fail decision or continuation of employment
- End-of-lesson tests are administered individually (**not** as a group activity) so that students can determine what they have and have **not** learned
- The review of test results may be conducted as a group

⊙ Block Tests

- Block tests are comprehensive and cumulative assessments of student knowledge administered at the end of each major section or “block” of the course

  – The test is cumulative because selected test items from previous blocks are included which promotes retention throughout the course

  – Student scores on the block tests provide instructors and students with diagnostic information about the topic areas they have mastered and those that have **not** been mastered

  -- Block tests are administered individually to students and scored via computer

GRADING PROCEDURES *(Continued)*

Pass/Fail Testing

⊙ Map Test

- Students are evaluated on the Aero Center (ZAE) Map
  - In this test, the blank maps have unlabeled NAVAIDs and boundaries **only**
  - Students label the NAVAIDs and boundaries, then draw all items on the map (e.g., intersections; DME fixes; airways; and special use airspace)
- Using the maps just drawn and knowledge gained from the Aero Center Airspace Lesson, students complete a comprehensive airspace exam.

  The score for this exam accounts for 2% of the overall course grade.
- Retakes of the exam are **not** allowed

⊙ Aircraft Characteristics Test

- Accounts for 4% of the total grade in the course
- Retakes of the test are **not** allowed

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GRADING PROCEDURES *(Continued)*

Pass/Fail Testing (Cont'd)

⊙ Controller Knowledge Test (CKT)

- The CKT is a comprehensive knowledge test that covers all topics previously taught
  - It promotes long-term retention of knowledge by testing across several lessons and blocks and including selected test items on all topics previously taught
- There are two CKTs
  - The first is administered during the nonradar portion of the course
  - The second is administered at the end of the radar academics portion of the course
- CKTs are administered individually to students and scored via computer (paper-based if computer is unavailable)
- The scores are documented and entered into the student's record.
  - CKT #1 accounts for 4% of the student's total grade in the course
  - CKT #2 accounts for 5% of the student's total grade in the course
- Retakes of the exams are **not** allowed

⊙ Graded Laboratory Scenarios – Nonradar

- Graded laboratory scenarios consist of two skill-based evaluation scenarios in the nonradar lab
- The skill-based scenarios are approximately 30 minutes in length (after a 15 minute pre plan)
- During the evaluation scenarios, a contractor ghost pilot works the remote position, the student works the nonradar control position, and an FAA-designated Evaluator scores the student's performance.
- The score from the scenarios will account for 14% of the student's total grade in the course (7% from each scenario)
- Retakes of the scenarios are **not** allowed

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GRADING PROCEDURES *(Continued)*

Pass/Fail Testing (Cont'd)

⊙ Evaluation Checklist Scenario

- Students are given a scenario in which they are required to demonstrate certain air traffic control computer entries and selected procedures during the Radar-Associate portion of the course
- The skill-based scenario is approximately 45 minutes in length
- During the scenario, an Academy instructor works the Radar position and serves as the evaluator, and the student works the Radar-Associate position.
  - The Evaluator follows a checklist to prompt students to perform certain tasks.
- The score is documented and entered into the student's record
  - The score from the checklist will account for 5% of the student's total grade in the course
- Retake of the checklist scenario is **not** allowed

⊙ Graded Laboratory Scenarios – Radar-Associate

- Graded laboratory scenarios consist of three skill-based evaluation scenarios in the ERAM lab
- The skill-based scenarios are approximately 45 minutes in length
- During the evaluation scenarios, an Academy instructor or Radar Simulation Operator (RSO) works the Radar position, the student works the Radar-Associate position, 2 Academy Remote Pilot Operators (RPOs) work the pilot and remote positions, and an FAA-designated Evaluator scores the student's performance.
- A modified FAA Form 3120-25 is used to document the student's performance
- The score from the scenarios will account for 66% of the student's total grade of the course (22% from each scenario)
- Retakes of the scenarios are **not** allowed

NOTE: See Appendix A for Nonradar and ERAM Evaluation Forms.

BLOCK I – EN ROUTE FUNDAMENTALS

Elements

BLOCK I – EN ROUTE FUNDAMENTALS

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- In the En Route Fundamentals block, students learn basic air traffic concepts and get opportunities to practice these skills
- This block includes the following elements:
  - Lessons
    - Aero Center Airspace
      - → eLearning activities
    - Radio and Interphone Communications
      - → End-of-lesson test
    - Flight Progress Strips
      - → eLearning activities
      - → End-of-lesson test

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Elements (Cont'd)

- Recording Clearances and Control Information
  - → eLearning activities
  - → End-of-lesson test
- Forwarding Flight Plan and Control Information
  - → eLearning activities
  - → End-of-lesson test
- Letters of Agreement
  - → End-of-lesson test
- General Control
  - → End-of-lesson test
- Board Management
  - → eLearning activities
  - → End-of-lesson test
- IFR Clearances and Route Assignments
  - → eLearning activities
  - → End-of-lesson test
- Departure Procedures
  - → eLearning activities
  - → End-of-lesson test
- Altimeter Settings and Altitude Assignments
  - → End-of-lesson test
- Holding Procedures
  - → End-of-lesson test

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Elements (Cont'd)

- Arrival and Approach Procedures
  - → eLearning activities
  - → End-of-lesson test
- Vertical Separation
  - → eLearning activities
  - → End-of-lesson test
- Longitudinal Separation
  - → End-of-lesson test
- Lateral Separation
  - → eLearning activities
  - → End-of-lesson test
- Initial Separation of Departures
  - → End-of-lesson test
- METAR
  - → HANDOUT

- Aero Center (ZAE) map study
- Map/Airspace test – 2%
- Exercises
  - Part-task nonradar scenarios
  - Practice scenarios (walk-through with instructor)
- Block I Test

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BLOCK II – NONRADAR LAB

Elements

BLOCK II – NONRADAR LAB

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- In this block, procedures for coordination and separation, stripmarking, phraseology, and board management are emphasized.
- This block includes the following elements:
  - Aircraft Characteristics
    - → eLearning activities (computer-based instruction (CBI))
  - Nonradar scenarios
    - 27 nonradar scenarios with an instructor and a student as remote
      - → Students are evaluated on separation, coordination, control judgment, methods and procedures, and communication
  - Controller Knowledge Test (CKT) – 4%
  - 2 evaluation scenarios – 7% each

NONRADAR GRADING STANDARDS

Grading Standards

- ⊙ Scoring breakdown
  - Map test - 2% (Block I)
  - CKT #1 - 4% (Block II)
  - Nonradar Graded Lab #1 - 7% (Block II)
  - Nonradar Graded Lab #2 - 7% (Block II)
- ⊙ Nonradar Evaluation Form
  - This form is located in Appendix A.
  - All questions concerning this form will be addressed by a member of the Evaluation Team closer to the day on which the form will be utilized.

BLOCK III – RADAR ACADEMICS

Elements

BLOCK III – RADAR ACADEMICS

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- In this block, students will work in a radar environment in order to improve their Radar-Associate skills.
  - Students will also gain a better understanding of Radar-Associate and Radar Controller duties and responsibilities in order to become a functioning member of the radar team
- The Radar block includes the following elements:
  - Lessons
    - Radar Transition, which reviews:
      - → Radar map
      - → Radar strips
      - → LOAs
      - → Fix Radial Distances (FRDs)
    - Radar Data Display
      - → eLearning activities
      - → End-of-lesson test
    - Beacon Code Assignment
      - → End-of-lesson test

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BLOCK III – RADAR ACADEMICS *(Continued)*

Elements (Cont'd)

- Radar Identification
  - → End-of-lesson test
- Radar Handoff and Point Out
  - → End-of-lesson test
- Radar Separation and Safety Alerts
  - → End-of-lesson test
- Radar Vectoring
  - → End-of-lesson test
- Emergencies
  - → End-of-lesson test
- Weather Hazards
  - → End-of-lesson test
- Military Operations
  - → End-of-lesson test
- Safety Culture
- Position Relief Briefing
  - → End-of-lesson test
- Team Responsibilities
- Computer Equipment and Message Entry Part 1
  - → Computer-based instruction (CBI)
- SVSCS

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BLOCK III – RADAR ACADEMICS *(Continued)*

Elements (Cont'd)

- Computer Equipment and Message Entry Part 2
- Scanning and Awareness
- ERAM SOP
  - → End-of-lesson test

- Controller Knowledge Test #2 – 5%
- Aircraft Characteristics Test – 4%

BLOCK IV – RADAR-ASSOCIATE (RA) LAB

Elements

BLOCK IV – RADAR-ASSOCIATE (RA) LAB

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- This block focuses on learning and applying skills necessary to perform Radar-Associate duties.
- It is 18-days in duration and includes the following elements:
  - Scenarios
    - 1 checklist scenario (graded) – 5%
    - ERAM scenarios
      - → 45 scenarios for learning and practicing skills
    - Evaluation
      - → Three scenarios – 22% each, total of 66%
      - → Administered by FAA-designated evaluators

RADAR GRADING STANDARDS

Grading Standards

- Scoring breakdown
  - Aircraft Characteristics Test – 4% (Block III)
  - CKT #2 – 5% (Block III)
  - Evaluation Checklist – 5% (Block IV)
  - Radar-Associate Graded Lab #1 – 22% (Block IV)
  - Radar-Associate Graded Lab #2 – 22% (Block IV)
  - Radar-Associate Graded Lab #3 – 22% (Block IV)
- Final Course Score
  - **A cumulative score of 70% of all graded events in the course (CKTs, checklist, graded labs, tests) is required to pass the course**
  - **Students receiving a score of less than 70% are terminated from training**
- ERAM Evaluation Form
  - This form is located in the Handouts Tab in the back of the student binders and in Appendix A of this lesson.
  - All questions concerning this form will be addressed by a member of the Evaluation Team closer to the day on which the form will be utilized.

IN CONCLUSION

Lesson Review

LESSON REVIEW

The basic content and requirements for course 50148001 were covered in this lesson to include:

- Block I En Route Fundamentals
- Block II Nonradar Lab
- Block III Radar Academics
- Block IV Radar Lab

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APPENDIX A: EVALUATION FORMS

CLASS _____ COURSE 50148001 NON-RADAR EVALUATION, SCENARIO # _____

Student Name: _____ Evaluation Date: _____

Evaluator Name: _____ Evaluator Signature: _____

ARRIVALS _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

INITIAL CHECK IN							
1. Acknowledge Check On							
2. WX/ATIS/Altimeter							
INBOUND COORDINATION							
3. Interphone Usage (format and initials)							
4. Call Sign/Type/Suffix							
5. Fix/Airport Estimate							
6. Altitude and Restrictions Forwarded							
7. Approach Type							
8. Other [D67 (block & cancel), HKS, etc.]							
9. TCP							
ARRIVAL CLEARANCE							
10. Clearance Limit							
11. Route							
12. AIRSPACE Separation (+, -, X or O)							
13. AIRCRAFT Separation (+, -, X or O)							
HOLDING (14-19)							
14. Assigned Altitude							
15. Direction (and Turns)							
16. Radial/Bearing or "As Published"							
17. EFC							
18. Frequency Change							
19. Efficiency (Correct Rule/No Delay)							
APPROACH CLEARANCE							
20. AIRSPACE Separation (+, -, X or O)							
21. AIRCRAFT Separation (+, -, X or O)							
22. Approach Name							
23. Frequency Change							
24. Efficiency (Correct Rule/No Delay)							
OTHER							
25. Stripmarking							
26. Phraseology (Including NE vs. NW, etc.)							
27. Board Management							
Total +							= (1)
Total -							
Total + and -							= (2)

NOTES

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DEPARTURES _____ _____ _____ _____ _____ _____ _____

COORDINATION							
28. EDCT							
29. Interphone Usage (format and initials)							
30. Call Sign (Including "In Suspense")							
31. Airport/Departure Time/Estimate							
32. Altitude (+, - **or X**)							
33. Revised Routing (+, or X)							
DEPARTURE CLEARANCE							
34. Takeoff/Turns Confirmation (**+ or X**)							
35. Departure/Destination Airport Name							
36. Init. Dept. Instructions / Sep. (**+, - or X**)							
37. Route							
38. AIRSPACE Separation (+, -, X or O)							
39. AIRCRAFT Separation (+, -, X or O)							
40. Within 2000' of Req. Alt. & not IAFDOF							
41. Void Time							
42. "Verify This Clearance…" (**+ or X**)							
43. Frequency Change							
44. Efficiency (Correct Rule/No Delay)							
OTHER							
45. Stripmarking							
46. Phraseology (Including NE vs. NW, etc.)							
47. Board Management							

ALL OTHER AIRCRAFT _____ _____ _____ _____ _____ _____ _____

EN ROUTE							
48. Interphone Usage (format and initials)							
49. Acknowledge Check On							
50. WX/ATIS/Altimeter							
51. Coordination							
52. Revised Routing (If Any)							
53. AIRSPACE Separation (+, -, X or O)							
54. AIRCRAFT Separation (+, -, X or O)							
55. IAFDOF							
56. Frequency Change							
57. Efficiency (Correct Rule/No Delay)							
58. Stripmarking							
59. Phraseology (Including NE vs. NW, etc.)							
60. Board Management							
Total +							= (3)
Total -							
Total + and -							= (4)

A .Line (1) ___ + Line (3) = _____ (5)
B .Line (2) ___ + Line (4) = _____ (6)
C .....Line (5) ÷ Line (6) = _____ %
D .....# of X's ___ x 10 = _____ (-)
E .....# of O's ___ x 5 = _____ (-)

Student Signature: _____

SCORE (C-D-E) = _____

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APPENDIX A: EVALUATION FORMS *(Continued)*

COURSE 50148001 - RADAR ASSOCIATE
EVALUATION REPORT

1. Name	2. Date	3. Scenario/Position(s)

4. Weather	5. Workload	6. Complexity	7. Hours
☑ MVFR	☑ Moderate	☑ Occasionally Difficult	

9. Purpose	10. Class #
☑ Evaluation	

	Job Task	Job Subtask	Comment	EVALUATION Error	Points	Total (Errors X Points)
Performance	A. Separation	1a. Separation is ensured - Aircraft to aircraft or MEA violations.			16	
		1-b. Separation is ensured - Aircraft to airspace.			12	
	B. Coordination	3. Performs handoffs/pointouts.			9	
		4. Required coordinations are performed.			8	
	C. Control Judgment	5. Good control judgment is applied.			5	
		6. Priority of duties is understood.			5	
		7. Positive control is provided.			5	
		8. Effective traffic flow is maintained.			4	
	D. Methods and Procedures	9. Aircraft identity is maintained.			6	
		10. Strip posting is complete/correct.			2	
		11. Clearance delivery is complete/correct and timely.			4	
		12. LOAs/directives are adhered to.			4	
		13. Additional services are provided.			3	
		14. Rapidly recovers from equipment failures/emergencies.			2	
		15. Scans entire control environment.			2	
		16. Effective working speed is maintained.			0	
	E. Equipment	17. Equipment status information is maintained.			2	
		18. Equipment capabilities are utilized/understood.			2	
	F. Communication	19. Functions effectively as a radar/tower team member.			2	
		20. Communication is clear and concise.			2	
		21. Uses prescribed phraseology.			2	
		22. Makes only necessary transmissions.			2	
		23. Uses appropriate communications method.			2	
		24. Relief briefings are complete and accurate.			5	
	G. Other					

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12. Comments

Signature of Student:_____ Date:_____

Signature of Evaluator:_____ Date:_____