



**Federal Aviation
Administration**

Initial En Route Qualification Training

Lesson 01 En Route Qualification Training Overview

Course 50148001

LESSON PLAN DATA SHEET

COURSE NAME:	INITIAL EN ROUTE QUALIFICATION TRAINING
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LESSON TITLE:	EN ROUTE QUALIFICATION TRAINING OVERVIEW
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OTHER PERTINENT INFORMATION:	NONE

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INTRODUCTION

Initial En Route Qualification Training

Lesson 01 En Route Qualification Training Overview

V.2025-02
Presented by
FAA Academy
Air Traffic Division



Federal Aviation
Administration



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In this lesson, you will learn the various stages of training that address the specific educational requirements for becoming a certified professional controller (CPC).

INTRODUCTION *(Continued)*



Qualified personnel at both the FAA Academy and your facility are available to assist you through your En Route Controller training. These dedicated professionals will help you learn and retain the necessary knowledge required in order to succeed. However, you **must** also do your part!

Purpose

This lesson provides an overview of En Route facilities as well as details the four stages of training required to become an En Route CPC.

INTRODUCTION *(Continued)*

Lesson Objectives

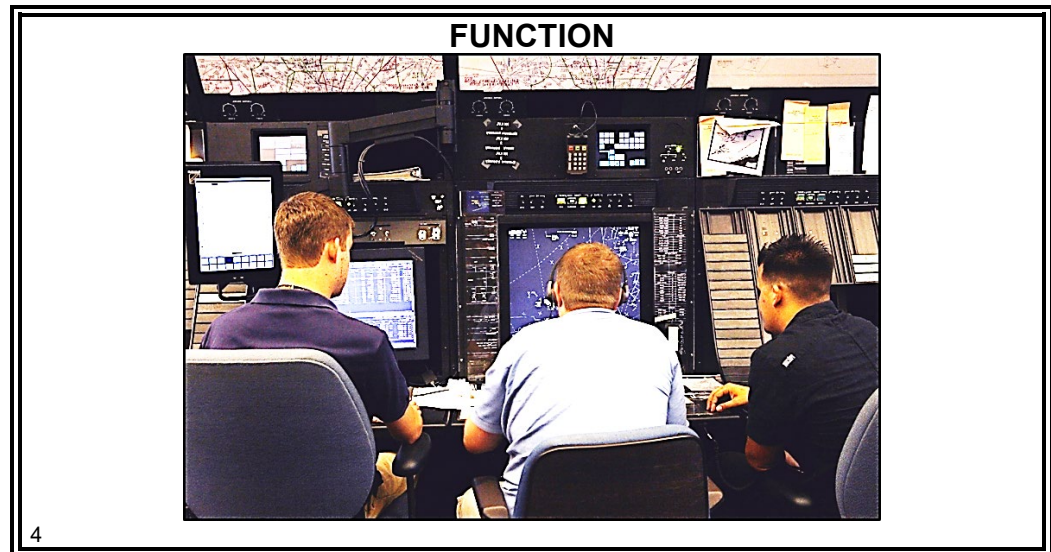
LESSON OBJECTIVES

- At the end of this lesson, you will be able to:
 - List and describe the four distinct stages of En Route Controller training
 - Describe the aspects of on-the-job training (OJT)

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EN ROUTE

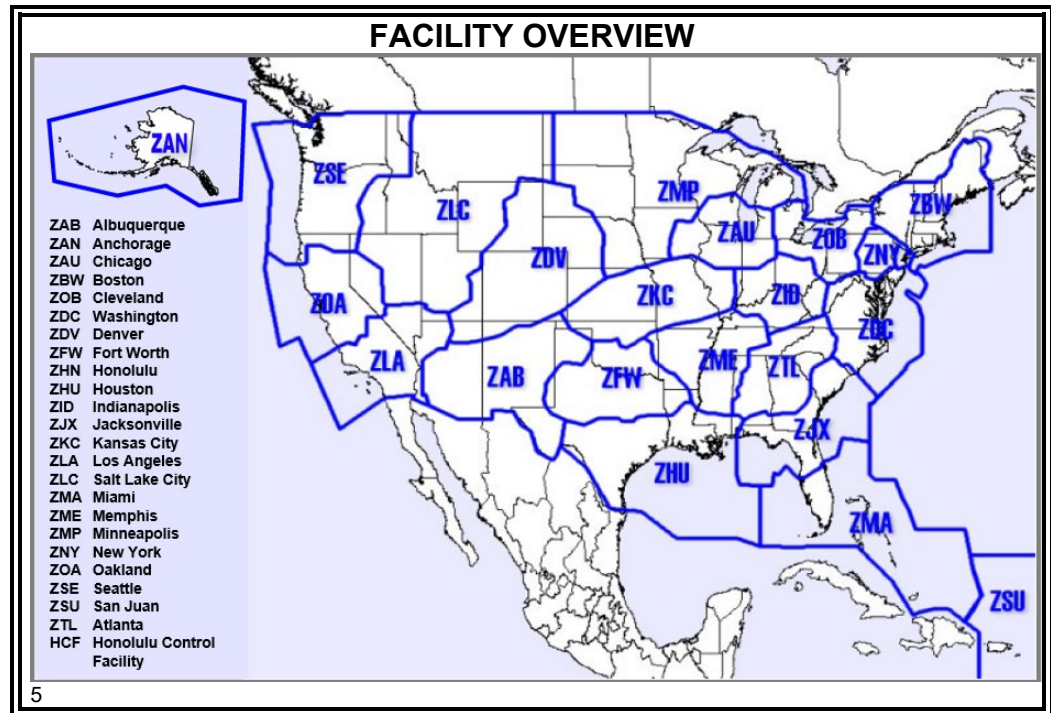
En Route Function



- ⦿ As an En Route CPC, you will work as part of a team consisting of a Radar and Radar-Associate controller.
- ⦿ You will be working in a dark, windowless environment.
- ⦿ Your main function will be to control aircraft that are operating outside of Terminal airspace.
 - Terminal facilities control aircraft landing at and departing from some airports, including:
 - TRACONS at major airports
 - Control towers at some smaller airports

EN ROUTE (Continued)

Facility Overview



- ⊙ There are 24 En Route facilities, including:
 - 22 Air Route Traffic Control Centers (ARTCCs)
 - Two consolidated control facilities—San Juan (ZSU) and Guam (ZUA)
 - Both are also considered En Route
 - Honolulu Control Facility (HCF)—which is considered a combined control facility
- ⊙ Each En Route facility has a unique airspace configuration which:
 - Can exist anywhere from the surface up to FL600
 - Contains airspace that has been delegated to Terminal facilities at various locations
 - Starts above the top of any underlying Terminal airspace
 - Can have oceanic or offshore airspace

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EN ROUTE *(Continued)*

Facility Overview (Cont'd)

- ⊙ Some facilities have extensive areas of airspace with **no** radar coverage (nonradar airspace).

- Facilities with mountainous terrain, i.e. ZDV, ZLC, ZAB, ZSE

NOTE: Radar has line of sight limitations. It **cannot** “see” through terrain.

- Radar airspace generally overlies areas of nonradar airspace
 - ⊙ Some facilities have very little, if any, nonradar airspace; however, most—if **not** all—departure clearances issued by En Route controllers are nonradar clearances.
 - ⊙ Staffing at En Route facilities generally ranges from 250-525 controllers.
 - ⊙ En Route facilities are generally **not** located at major airports.
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EN ROUTE *(Continued)*

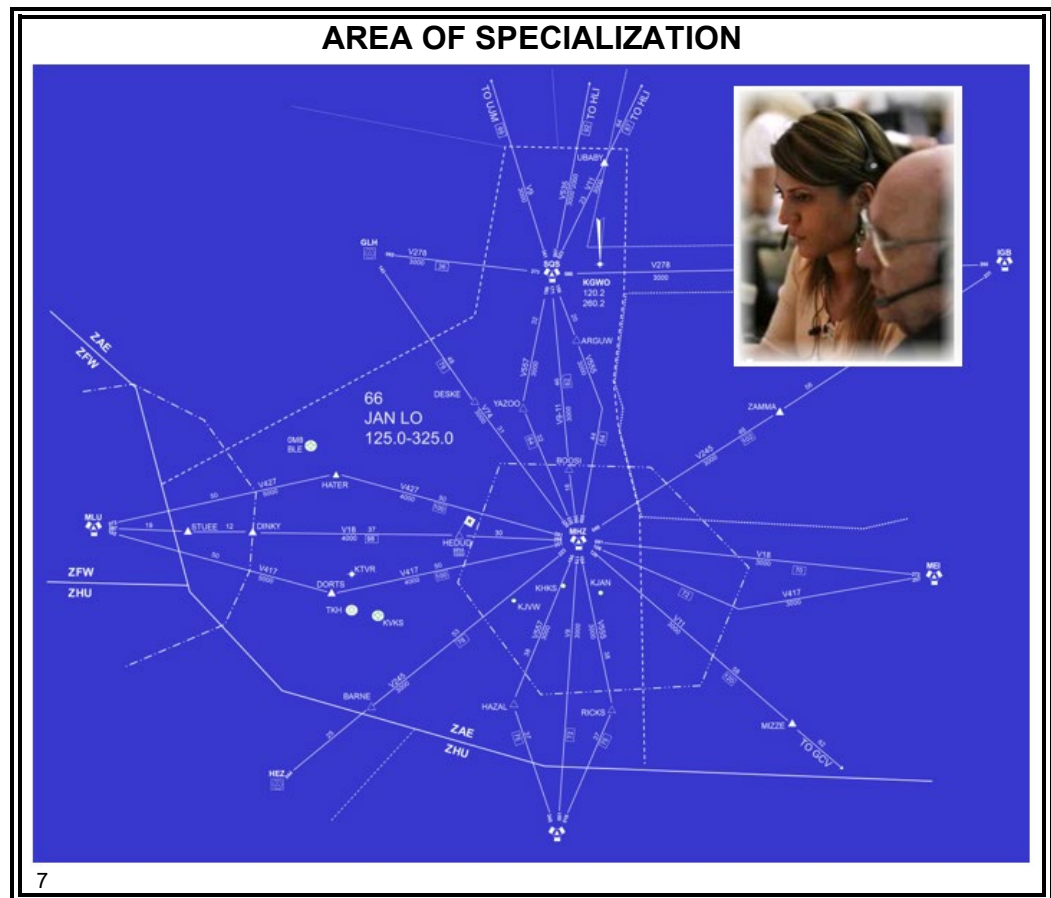
Facility Training Department



- ⦿ A facility training department consists of:
 - Training Manager
 - Training Specialist(s)
 - Contract Instructors
 - CPC Support
- ⦿ Assignment to the facility training department occurs upon your arrival at your ARTCC following graduation from the FAA Academy.
 - You generally start Stage II training right away
 - At later times, you will also accomplish the academic and simulation training for Stage III in the training department
- ⦿ Also, you receive assignment to an Area of Specialization.
 - At various times during your training, you will transition back and forth between the training department and your Area of Specialization

EN ROUTE (Continued)

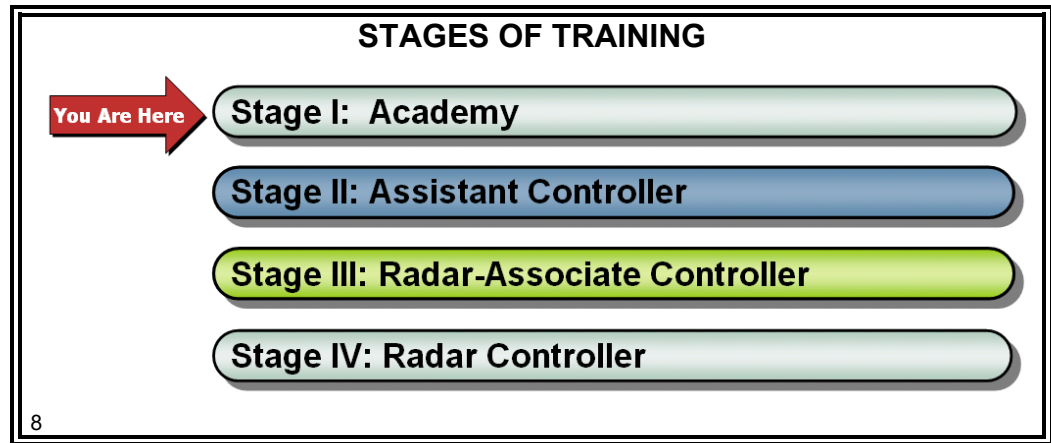
Area of Specialization



- ⊙ Each ARTCC is divided into 4-8 large subsections of airspace called Areas of Specialization, also referred to as area or specialty.
 - Each Area of Specialization is further divided and stratified into 6-9 smaller subsections of airspace called sectors
 - The most common personnel configuration for a sector is:
 - Radar controller (often referred to as the R-side) and
 - Radar-Associate controller (often referred to as the D-side)
- ⊙ As a new employee, your assignment to an Area of Specialization depends on many factors, such as:
 - Staffing
 - Previous ATC experience
 - Individual strengths and weaknesses (if known)
 - Trainer availability

STAGES OF TRAINING

Stages of Training



- ⦿ The slide shows the four stages of training for an En Route controller.
 - All stages are pass/fail
 - All stages include academics
 - Stages I, III, and IV include simulation training
 - Stages II, III, and IV include on-the-job training (OJT)
- ⦿ The Agency's goal is for developmental En Route controllers to achieve CPC status within 3 years of the date they start at the Academy.

STAGES OF TRAINING *(Continued)*

Stage I: Academy



- ⦿ Foundational knowledge is the cornerstone of course 50148001.
 - It covers the primary duties of a Radar-Associate controller as contained in FAA Order JO 7110.65, chapter 2, section 10 – Radar Team
- ⦿ There is a high level of effort necessary to pass the course.
 - **Not** everyone has the capability to become an air traffic controller
- ⦿ Length of the course is approximately 60 days.
- ⦿ Successful completion of Stage I depends partly on academics and partly on adequately demonstrated performance in the simulation lab.

STAGES OF TRAINING *(Continued)*

Stage II: Assistant Controller

STAGE II: ASSISTANT CONTROLLER



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- ⦿ This position is **not** staffed/utilized as widely now as it was when paper strips were the primary means of tracking aircraft control actions.
 - The assistant controller position is still staffed at some of the facilities with Areas of Specialization that handle international traffic
- ⦿ Length of this training is generally 4 weeks.
- ⦿ Successful completion of Stage II training includes passing the Center Map test, which is pass/fail.
 - The facility maps are much more complex than the Aero Center map
 - Facilities generally allow you 1-2 weeks to learn the map
 - Facilities generally have multiple maps to memorize and draw, including but not limited to a jet route and frequency map for the facility in addition to low and high-altitude maps for every sector in your Area of Specialization

NOTE: This may be the biggest initial hurdle for new ARTCC developmental controllers after arriving at a facility.

STAGES OF TRAINING *(Continued)*

Stage III: Nonradar and Radar- Associate Controller



- ⦿ Builds upon the foundational knowledge gained at the Academy in Stage I training.
 - ⦿ En Route Fundamentals/Nonradar labs
 - The number of sectors with nonradar airspace varies significantly from facility to facility
 - The primary focus is the safe and effective transition of aircraft from nonradar to radar separation standards and vice versa
 - The content and duration of en route fundamentals and simulation training varies by facility and consists of:
 - Academics
 - Simulation problems, commonly called scenarios
- The total number of scenarios for Stage III nonradar varies by facility

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STAGES OF TRAINING *(Continued)*

Stage III: Nonradar and Radar- Associate Controller (Cont'd)

- If your Area of Specialization has extensive nonradar airspace, you will most likely complete familiarization scenarios, instructional scenarios, and evaluation scenarios
 - You are required to pass **any** evaluation scenarios
 - ⊙ Radar-Associate
 - This training consists of:
 - Academics
 - Simulation problems, commonly called scenarios
 - The total number of scenarios for Stage III Radar-Associate varies by facility
 - There are familiarization scenarios, instructional scenarios, and evaluation scenarios
 - You are required to pass **any** evaluation scenarios
 - OJT (on-the-job training) is conducted in your Area of Specialization on live traffic under the supervision and control of a CPC
 - ⊙ Length of this training is generally 8-16 months.
 - ⊙ Successful completion of Stage III training requires certification on each Radar-Associate position in your Area of Specialization.
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ROLES AND RESPONSIBILITIES

Training Team



- ⊙ The Training Team consists of:
 - You
 - Your Front Line Manager (FLM), and
 - Primary and secondary OJT instructors (OJTI)
- ⊙ Your responsibilities as the developmental controller are to:
 - Actively participate in training to achieve certification
 - Perform operational assignments in order to maintain proficiency and currency
 - Review, discuss, and make suggestions to enhance the training plan with other members of the training team
 - Ensure that all aspects of the training plan are understood
 - Immediately advise a supervisor of any extenuating circumstance(s) that might impede training progress
 - Be physically and mentally prepared to receive OJT, exercise initiative, and study to ensure satisfactory training progress and certification
 - Be receptive to training performance feedback from OJTIs/supervisors

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ROLES AND RESPONSIBILITIES *(Continued)*

Training Team (Cont'd)

- ⊙ Your FLM directs all aspects of your training, and has the primary responsibility for determining:
 - Continuation of training (OJT)
 - Skill enhancement training (SET)
 - SET is available when OJT is **not** progressing satisfactorily. Your FLM will assign SET to enable the developmental to return to OJT and perform at a level that will allow certification within the assigned hours.
 - Suspension of training
 - Position certification
 - Monthly skill checks
 - Required for each position for which you are receiving OJT. Your FLM will make a decision each month as to whether or **not** you continue OJT, need SET, achieve certification, or if your training is suspended.
 - ⊙ Your primary and secondary OJTIs will normally train you, but if they are **not** available, any OJTI may be assigned to work with you.
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ROLES AND RESPONSIBILITIES (Continued)

Training Plan

TRAINING PLAN	
TRAINING PLAN	
Developmental: ADAMS, DAVID D (OU)	
Area: AREA 2	Rating: FRR
Supervisor: COE, DAVID J (PA)	
The purpose of this document is to outline the training objectives for David D. Adams. The members of the training team agree to implement these objectives in a positive and timely manner. The training team will meet on a monthly basis to discuss David D. Adams's training performance and will revise this training plan as appropriate.	
Position: 17 Radar	Course: 55065 Radar Control
Target Hours: 30.0	OJT Hours: 5.0
Min. Cert Hours: 20.0	Effective Date: 07/31/1995
Primary OJTI:	Secondary OJTI:
Objectives: Five (5) hours of OJT will be provided. OJT will then commence with a goal of accomplishing four (4) hours training each day. The first five to ten (5-10) hours of OJT will be conducted during light to occasionally moderate traffic volumes. All familiarization and OJT shall be accomplished, to the maximum extent possible, utilizing the primary/secondary OJTI. In the event the primary/secondary OJTIs are not available, then any available OJTI may be used to conduct training.	
After reaching the minimum certification hours, and at the training team's discretion, other OJTIs may occasionally be used to help gain exposure to various control techniques. On a monthly basis, a Performance skill check shall be accomplished and the training team shall meet to discuss training progress as well as identify any potential problem areas that require resolution.	
Adams, David D (OU) Developmental	Coe, David J (PA) Supervisor
Primary OJTI	Secondary OJTI
Other	Other

- ⊙ The Training Plan is a document that outlines OJT training parameters for a position or a number of positions in a Stage of training.
- ⊙ The training plan identifies:
 - You
 - Your FLM
 - Your primary and secondary OJTIs
 - Training position(s)
 - Target hours and minimum certification hours for each training position

NOTE: Target hours refers to the average number of hours to certify on that position at that particular facility. Target hours are **not** a guarantee. You **must** demonstrate adequate progress to your FLM each month on the performance skill check(s) in order to continue OJT.

- Possibly a suggested sequence of training positions

IN CONCLUSION

Lesson Review

LESSON REVIEW

The following topics were covered in this lesson:

- Stages of En Route Controller training
- On-the-job training (OJT)



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The next lesson provides an overview of this course—Course 50148001, Initial En Route Training (IET).
