

BASICS FOR AIR TRAFFIC CONTROL – USING THE FACILITATOR GUIDE

USING THE FACILITATOR GUIDE

Facilitator guides are designed to assist facilitators while delivering instruction for a course. They typically provide a summary of course content, instructions to conduct associated student engagement, opportunities for discussions, assessment, and instructions to support the facilitators as they lead students through the course structure, striving to improve the students' mastery.

This guide is designed to introduce the format of the facilitator guides and features developed for conducting the Federal Aviation Administration (FAA) Basics for Air Traffic Control course. Before you conduct this course, it is recommended that you familiarize yourself with the features and format of the guides as you prepare to instruct the course.

Course Delivery

The course content consists of a blended learning environment utilizing a combination of Web-Based Tutorial, facilitator-led training, facilitated discussions, video segments, and individual or group interactive engagements. The course will be linked to the FAA Electronic Learning Management System (eLMS) and will be managed in the Blackboard platform.

The major course components are divided into the following categories:

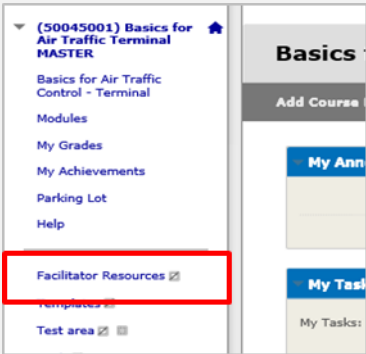
Web-Based Tutorial	Tutorials are presented as digital courseware designed in Articulate Storyline III. The training content is organized into modules, lessons, and topics. Interactive elements and videos are embedded within the course content.
Exercise	Paper-based exercises typically follow tutorials and provide the students an opportunity to practice and increase retention. They are either performed individually, in small groups, or in teams.
Activity	Web-based activities are designed in Articulate Storyline III and occur either at the end of a lesson or a module. Activities provide the students the opportunity to practice and increase retention. They typically are performed individually, and if additional practice is needed, students may repeat if time permits. Student responses are evaluated and feedback is provided.
Game	Games occur periodically throughout the course and follow module completion. They are designed as a comprehensive module drill/practice to reinforce learning and provide a non-graded score. Initial completion is required; however, students can repeat the activity at their leisure. Students will receive Blackboard trophies based on their score, with achievements for 80%, 90%, and 100%.
Facilitated Discussion	Facilitated discussions occur periodically throughout the course to create learning opportunities for the facilitator to discuss course content and assess student comprehension.
Assessment	Assessments are conducted in Blackboard at the completion of each module (30), block of instruction (5), and at the end of the course. They are designed to provide an indication of mastery of course content related to the objectives. Facilitators will provide guidance, identify requirements, conduct reviews, and clarify content prior to administering and after all tests have been scored.

Facilitator Resources

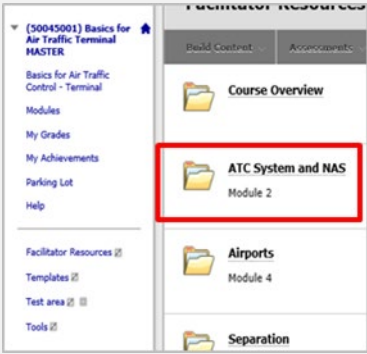
There are 30 facilitator guides organized by modules posted in Facilitator Resources folder in Blackboard. In addition to the guides and any instructor-specific resource required to complete the module are located in the same folder.

To locate Facilitator Resources folder:

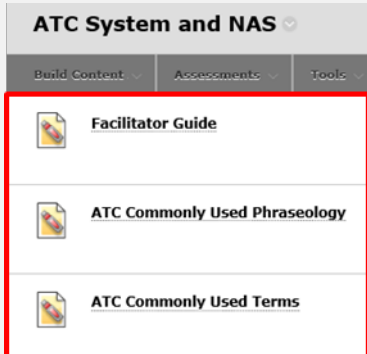
1. Select Facilitator Resources from the main menu.



2. Select module folder.



3. Select desired file.



Facilitator Guide Features

Each facilitator guide includes the same features that are placed in the following consistent format.

As part of the course preparation, the facilitator is responsible for enabling content within Blackboard before students can access training content. The information below is intended to only indicate when facilitators should enable the content. Refer to the Basics for Air Traffic Control Operations Manual for comprehensive training on how to complete these functions in Blackboard.

Facilitators must enable each module before students can access.

Module Outline

The module outline provides a detailed overview of the module in outline format. In addition a list of topics covered per lesson, lesson objectives, and a purpose statement are provided summarizing the goal of the lesson.

MODULE OVERVIEW

The purpose of this module is to describe the Federal Aviation Administration (FAA) timeline, the functions and roles of different FAA organizations, and the responsibilities of different facility positions. It also describes the purpose of the Air Traffic Control (ATC) system including the role of the Traffic Management (TM) system. The module ends with a description of the National Airspace System (NAS).

MODULE OUTLINE

Student Handouts – ATC Commonly Used Terms and ATC Commonly Used Phraseology
Independent Study Activity – ATC Terms and Phraseology

Lesson: Federal Aviation Administration (FAA) Overview

Purpose: The purpose of this lesson is to describe the hierarchy and functions of the departments within the Federal Aviation Administration (FAA).

Objective:

- Identify the functions and structure of the FA

Topics:

- Video – Nextgen Gate to Gate
- Department of Transportation
- Federal Aviation Administration (FAA)
 - History
 - FAA Headquarters Offices
 - Regions and Aeronautical Center Operations
 - Air Traffic Organization
 - ATO Air Traffic Services
 - Air Traffic Services Service Areas

Module Overview

The module overview identifies each lesson for the module, the total estimated run time, and all module content in the order in which it occurs.

INTRODUCTION

LESSONS	<ul style="list-style-type: none"> Federal Aviation Administration (FAA) Overview Air Traffic General Control Position Responsibilities in ATC System Traffic Management (TM) System National Airspace System (NAS) Visual and Instrument Flight Rules
TOTAL ESTIMATED RUN TIME	6 hrs. 13 mins.
MODULE CONTENT	<ul style="list-style-type: none"> Module Overview Student Handouts - ATC Commonly Used Terms and ATC Commonly Used Phraseology Independent Study Activity - ATC Terms and Phraseology Federal Aviation Administration (FAA) Overview Student Handout - FAA History Lesson: Air Traffic General Control Exercise - Priority and Preferences Q&A Session Lesson: Position Responsibilities in ATC System Video - This is Air Traffic Control Q&A Session Lesson: Traffic Management (TM) System Q&A Session Lesson: National Airspace System (NAS) Lesson: Visual and Instrument Flight Rules Q&A Session - Parking End-of-Module Test

Facilitator Instruction Boxes

Facilitator instruction boxes occur before every component that occurs in the training. They identify the delivery method, estimated time to complete, and location of the component on Blackboard. Depending on the delivery method, additional instructions may be provided to support the facilitator with classroom management while conducting the session.

FACILITATOR INSTRUCTIONS

- Instruct students to select **ATC System and NAS** module link within Blackboard
- Instruct students to read the module introduction and then wait quietly for additional instructions

DELIVERY METHOD

Blackboard

EST. RUN TIME

3 mins.

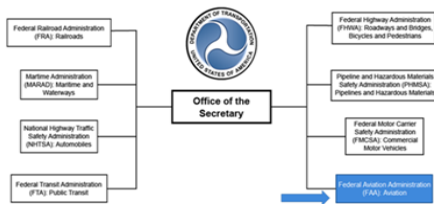
Facilitators must enable each lesson, activity, or game before students can access.

Lesson Content

The lesson content represents the content pages and graphics of the web-based lesson(s), exercises, worksheets, and study aids.

Department of Transportation

The Department of Transportation (DOT), under the leadership of the Office of the Secretary (OST), oversees the formulation of national transportation policy and promotes intermodal transportation. The operating administrations and bureaus that are under the direction of the DOT are shown in the organizational chart below.



Knowledge Checks

Knowledge checks occur throughout the lesson content and are designed to give the student an opportunity to gauge how well they are grasping the material. They are not graded, but they provide feedback to submitted responses. Correct responses are indicated in the facilitator guide.

Knowledge Check A

REVIEW what you have learned so far about the FAA. ANSWER the questions listed below.

1. What are the ATO service areas? (Select all correct answers that apply)

- ☐ **Eastern**
- ☐ Northern
- ☐ **Central**
- ☐ Southern
- ☐ **Western**

Exercises

Exercises are usually paper-based and have a student worksheet to record responses. The facilitator's version includes detailed instructions and identifies correct responses.

EXERCISE: GENERAL OPERATING AND FLIGHT RULES

Purpose

This exercise promotes interaction and provides a review of General Operating and Flight Rules.

Directions

Read each question and enter your answer. If needed, look back through the lesson content to locate the answers. Your instructor may choose to make this a team or an individual exercise.

Note: This exercise may be completed in teams or with students participating individually. This exercise is a review of the Title 14 CFRs General Operating and Flight Rules. Instruct students to answer each question and if needed review lesson content to locate correct responses.

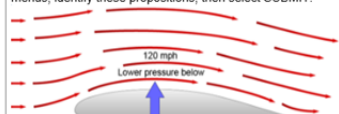
QUESTION	ANSWER
1. Who is directly responsible and the final authority for operation of an aircraft?	<u>Pilot in command</u>
2. When may the pilot in command deviate from 14 CFR, Part 91?	<u>An emergency requiring immediate actions, a TCAS resolution, or received an amended clearance</u>

Activities and Games

All questions and answers for web-based activities and games are provided in the facilitator guide. The questions and distractors may appear in a different order than displayed in the answer key due to randomization.

ACTIVITY: PRINCIPLES OF FLIGHT (ANSWER KEY)

Note: The questions in the key and their distractors may appear in a different order than displayed here due to activity question randomization.

Question	Answer
The creation of lift is explained by two propositions. Using the drop-down menus, identify these propositions, then select SUBMIT. 	<u>Bernoulli's Principle</u> <u>Newton's Third Law of Motion</u>

Assessment

Facilitators must enable each test before students can access.

Each module includes a randomized **End-of-Module (EOM)** test in which the students receive all questions included in the test bank. Instructions for administering the test are provided in the facilitator guide. A copy of the EOM test questions with answers and references are located in the back of each facilitator guide per module to assist the facilitator when reviewing commonly missed questions. Due to randomization, the test key question order will not match the student version.

END-OF-MODULE TEST (ANSWER KEY)

Note: Test questions in Blackboard are presented to the students in random order. Please be aware the test key question order will not match the student version.

1. The ATO is managed by a (n) _____. (Select the correct answer.)
- ☒ Chief Operating Officer
 - ☐ Associated Administrator
 - ☐ Vice President
 - ☐ Administrator

Reference(s): <http://www.faa.gov>


The questions in the **End-of-Block (EOB)** test are randomized to include one question from each objective in the block. Instructions for administering the test are provided in the facilitator guide, but a copy of the EOB questions are not included in the facilitator guide.

Instructions for accessing the **End-of-Course (EOC)** test are located in the back of the final facilitator guide in the course, but due to the risk of compromising the test, questions are not included in the facilitator guide.

Trivia Review Documents

Trivia Review

The trivia review is conducted prior to administering the End-of-Course test. The comprehensive review is organized by blocks of instruction. Students work in small groups or teams and compete to achieve the highest score. Instructions for setting up and hosting the review, the database of questions, and answer keys are located in the back of the final facilitator guide in the course.

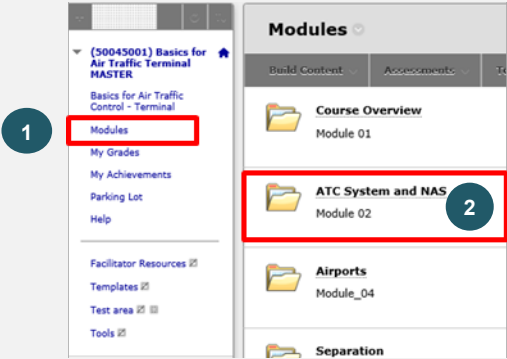


	EMERGENCIES 1	SEARCH AND RESCUE	WEATHER FUNDAMENTALS	EMERGENCIES 2	BAD WEATHER	POTPOURRI
Q1	The person who has final responsibility for the course of action to be followed in an emergency	An aircraft on an IFR flight plan, estimated over a specified reporting point at 0625, has failed to report. The aircraft is considered overdue at this time	The standard sea level pressure	The transponder code used to indicate two-way radio failure	The weather phenomenon which contains just about every hazard to an aircraft in flight	This is reported when prevailing visibility is 1 SM or less or the designated runway is 6,000 feet or less
A1	What is the Pilot in Command? (m281)	What is 0655? (m2902)	What is 29.92 inches of mercury? (m291)	What is 7600? (m281)	What are thunderstorms? (m246)	What is Runway Visual Range (RVR)? (m293)
Q2	121.5 VHF and 243.0 UHF are referred to as this	The two organizations that are responsible for the physical search of the contiguous U.S. and the maritime region	The layer of the atmosphere where most of the world's weather found	A report threat/attack/post-event activity via the ATIS and/or controller-to-pilot transmissions until notified otherwise by the DEN	The weather phenomenon that is characterized by a change in wind speed and/or direction in a short distance	A sky cover of five-eighths coverage is reported as this
A2	What are the Universal Emergency Frequencies? (m281)	What are the Coast Guard and Air Force? (m291)	What is the troposphere? (m231)	What is a MANPADS event? (m282)	What is a wind shear? (m243)	What is BKN (Broken)? (m296)

Student Guides

Student Guides and References

Student guides and links to the references are organized per module and accessed through the Modules tab on the Home Screen. The student guide contains all the content presented in the module, Knowledge Checks, exercise worksheets, and study aids. References include the actual source content from which the course materials were derived and specified references required to complete exercises.



Wake Turbulence

Exercises and Activities

Student Guide and References

WAKE TURBULENCE

INTRODUCTION

As noise is the by-product of thrust, wake turbulence is the by-product of lift. Additionally, wake turbulence is invisible to the eye. To effectively provide wake turbulence separation, you must first understand wake turbulence and its causes and effects.

The purpose of this module is to describe wake turbulence and associated characteristics, and explain the effects wake turbulence has on Air Traffic Control (ATC).

WAKE TURBULENCE

This lesson explains the components and basic characteristics of wake turbulence.

Upon completion of this lesson, you will be able to define wake turbulence and identify categories and factors

Aeronautical Information Manual (AIM)

Federal Aviation Administration

Review of Blackboard Operations

As part of the course preparation, the facilitator is responsible for performing specific operations in Blackboard. The information below is only intended as a review of some of the commonly used operations. Refer to the Basics for Air Traffic Control Operations Manual for comprehensive training on Blackboard.

Enable and Disable Course Content

Upon initial login, only the Course Overview will be available to students. Before students can access content, the following ***must be enabled*** by the facilitator.

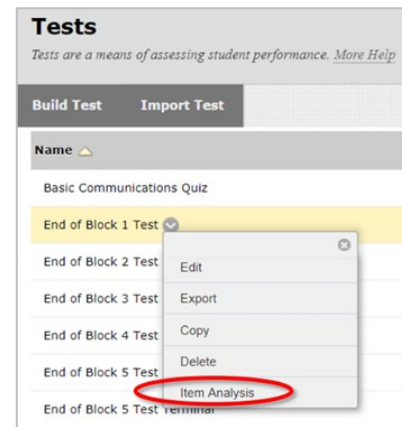
To enable a module folder:	
<ul style="list-style-type: none">■ Hover the mouse over the grey arrow next to the module title; select Edit■ In the Standard Options section, select the Yes radio button to permit users to view this content	<div>STANDARD OPTIONS</div> <div><div>Permit Users to View this Content</div><div><input checked="" type="radio"/> Yes <input type="radio"/> No</div></div> <div><div>Track Number of Views</div><div><input type="radio"/> Yes <input checked="" type="radio"/> No</div></div> <div><div>Select Date and Time Restrictions</div><div><input type="checkbox"/> Display After <input type="text"/>  <input type="text"/> </div></div>

Analyzing Tests

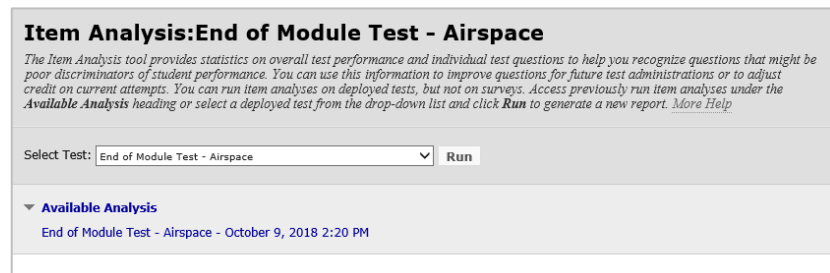
All tests may be analyzed in order to view data regarding each question's percentage of difficulty. This operation will identify commonly missed questions for test reviews. Tests may only be analyzed after attempts have been submitted.

To analyze a test:

- Expand the drop-down menu next to the test's title and **select Item Analysis**



- Select the test you want to analyze, then **select Run**



- Select the Available Analysis for the test you want to analyze

Available Analysis
End of Module Test - Airspace - October 9, 2018 2:20 PM

End of Module Test - Airspace
Analysis Last Run: October 9, 2018 2:20 PM. Run Item Analysis again to display the latest question data. [Edit Test](#)

Test Summary						Discrimination		Difficulty	
14.0	14	0	1	13.0	00 hr 00 min	0 Good Questions	13 Easy Questions	0 Medium Questions	1 Hard Questions
Possible Points	Possible Questions	In Progress Attempts	Completed Attempts	Average Score	Average Time	0 Fair Questions	0 Poor Questions	14 Cannot Calculate	

Filter Questions

Select Question Type: [All Question Types](#) | Select Discrimination: [All Discrimination](#) | Select Difficulty: [All Difficulty](#) | [Go](#) [Reset Filter](#)

Question	Question Type	Discrimination	Difficulty	Graded Attempts	Average Score	Std Dev	Std Error
Which airspace contains federal airways?	Multiple Choice	Cannot Calculate	100.0%	1	1.0	0.0	0.0
The lower limit of Class B airspace is _____.	Multiple Choice	Cannot Calculate	0.0%	1	0.0	0.0	0.0
Which of the following is NOT a characteristic of a Prohibited Area?	Multiple Choice	Cannot Calculate	100.0%	1	1.0	0.0	0.0
The upper vertical limit of Class A airspace is _____.	Multiple Choice	Cannot Calculate	100.0%	1	1.0	0.0	0.0
The upper limit of Class G airspace is _____.	Multiple Choice	Cannot Calculate	100.0%	1	1.0	0.0	0.0

Note: Difficulty - Easy (>80%); Medium (30% to 80%); Hard (<30%).

Note: To view the analysis information, hover the mouse over the information icon (i).

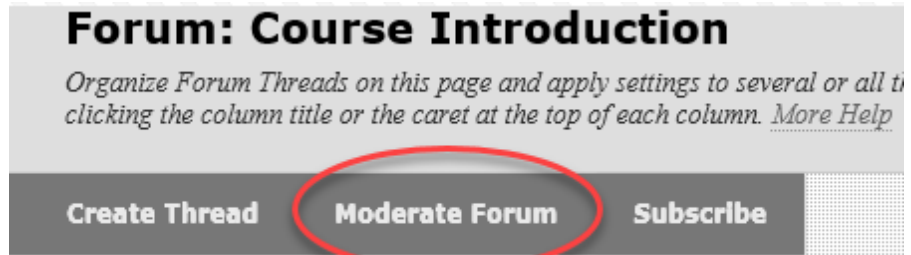
Moderate Forum

The parking lot allows students to post questions on a discussion board as they maneuver throughout module content, which the facilitator will answer during each Parking Lot Facilitated Discussion.

Each module has its own dedicated forum on the discussion board. Before conducting a Parking Lot discussion, facilitators must first create a forum.

To view a forum:

- Select the appropriate module title
- **Select Moderate Forum**



- A list of all the posts will appear
- To moderate a specific post, **select Moderate**
- On the Moderate Post page, read the post
- **Select Publish or Return**
 - Published messages are immediately posted to the thread
 - Returned posts are removed from the moderation queue and marked as Returned

Note: Optionally, you can type feedback in the text box. Though feedback is optional, you can provide guidance, ask questions, redirect a student's focus, and explain why a post was returned.

- **Select Submit**

Facilitator Checklist

- Become familiar with content and facilitator responsibilities required for conducting the course
- Ensure no issues exist with connectivity to FAA Blackboard on student computers
- Locate materials required for training
- Ensure that all student workstations are logged in and accessible, ready for students to access Internet Explorer
- Ensure headphones are in place and attached for students
- FAA IT HELP Desk: 1-844-322-6948