BASICS FOR AIR TRAFFIC CONTROL – COURSE OVERVIEW

MODULE OVERVIEW

Purpose: The purpose of this module is to identify the key course features located on the E-Learning platform and requirements to successfully complete the Basics for Air Traffic Control course.

MODULE OUTLINE

Lesson: Basics for Air Traffic Control Course Overview

Purpose: The purpose of this overview is to introduce Blackboard features and requirements for successful completion of the course.

Objectives:

- Identify the features of the Blackboard E-Learning System used in the Basics for Air Traffic Control course
- Identify requirements for completing the Basics for Air Traffic Control course

Topics:

- Course Organization
  - Modules
  - Blocks of Instructions
- Course Structure
  - Home Screen
  - Modules
  - Module Introduction
  - Lessons
  - Exercises and Activities Folder
  - Student Guide and References Folder
- Testing Requirements
  - End-of-Module Tests
  - End-of-Block Tests
  - End-of-Course Test
- Course Requirements
- Blackboard Features
  - My Grades
  - My Achievements
  - Parking Lot
  - Help
- Review/Summary

Question and Answer Session – *Parking Lot*

INTRODUCTION

LESSON	■ Basics for Air Traffic Control Course Overview
TOTAL ESTIMATED RUN TIME	1 hr.
MODULE CONTENT	■ Module Overview ■ Lesson: Basics for Air Traffic Control Course Overview ■ Q&A Session – Parking Lot

FACILITATOR INSTRUCTIONS	DELIVERY METHOD
■ Instruct students to select ***Course Overview*** module within Blackboard ■ Instruct students to read the module introduction and then wait quietly for additional instructions	Blackboard
	EST. RUN TIME
	2 mins.

Welcome to the Basics for Air Traffic Control.

The Basics for Air Traffic Control course is designed to teach newly hired air traffic controllers the basic air traffic skills in order to prepare them for option-specific skill training. This course targets students with no prior aviation knowledge or experience. It covers basic subjects that are prerequisite to option-specific skill training. There are no prerequisites for the course.

The course content consists of a blended learning environment utilizing a combination of Web-Based Tutorials, facilitator-led training, facilitated discussions, video segments, and individual or group interactive engagements.

The purpose of this module is to identify the key course features located on the E-Learning platform and requirements to successfully complete the Basics for Air Traffic Control course.

FACILITATOR INSTRUCTIONS	DELIVERY METHOD
■ **ENABLE *Basics for Air Traffic Control Course Overview*** lesson in Blackboard ■ Instruct students to navigate to the ***Basics for Air Traffic Control Course Overview*** lesson in Blackboard ■ Instruct students to work individually through the lesson content ■ Upon completion of the lesson, students should wait quietly until other students have completed	Blackboard
	EST. RUN TIME
	18 mins.

BASICS FOR AIR TRAFFIC CONTROL COURSE OVERVIEW

Welcome to the Basics for Air Traffic Control.

Purpose: The purpose of this overview is to introduce Blackboard features and requirements for successful completion of the course.

Objectives:

- Identify the features of the Blackboard E-Learning System used in the Basics for Air Traffic Control course
- Identify requirements for completing the Basics for Air Traffic Control course

Course Organization

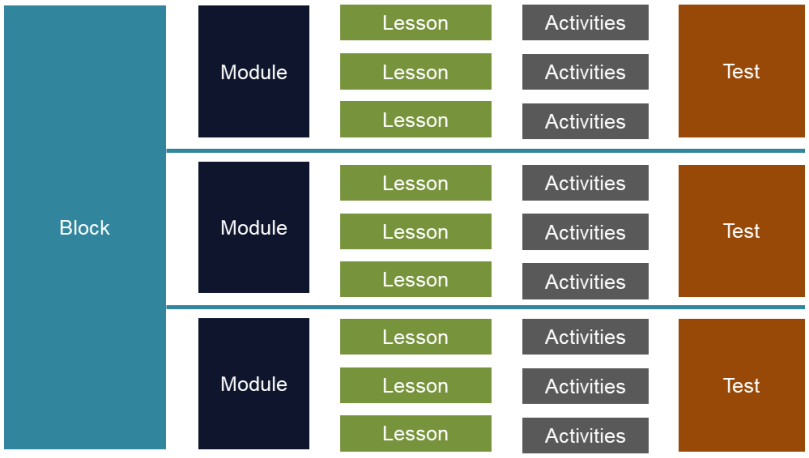
The course covers basic subjects that are prerequisite to option-specific skill training.

Modules

Each block is broken down into a series of related modules, which consist of lessons, various activities, and tests.

Blocks of Instruction

There are five blocks of instruction in the Basics for Air Traffic Control course.



Course Modules

Below are the module titles and a description of the content covered within the module for each block.

Block 1

Course Overview	ATC System and NAS	Airports
Introduces Blackboard features and requirements of the course.	Describes the Federal Aviation Administration's (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 and the National Airspace System (NAS).	Covers airports, including areas of an airport and the different types of airport marking and lighting aids and their uses.
Separation	**NOTAMs**	**ATC Surveillance Sources**
Introduces the different types of separation used every day by controllers to provide safe, orderly, and expeditious separation of air traffic within the NAS.	Discusses how time-critical information concerning the NAS is received, processed, and disseminated to all aviation interests via Notices to Air Missions (NOTAMs) and other means.	Provides information about primary and secondary radar systems. The advantages and disadvantages of both radar systems and the components of each will also be explained.
Intro to FAA Orders and Manuals		**Intro to LOAs and SOPs**
Describes the purpose and the general layout of the different orders that define the procedures and phraseology used by air traffic controllers. It also describes the purpose of the Aeronautical Information Manual (AIM), used by both controllers and pilots.		Describes the purpose and content of Letters of Agreement (LOAs) between air traffic facilities and other government/nongovernment entities and the purpose and content of Standard Operating Procedures (SOPs) within air traffic facilities.

Block 2

Principles of Flight	Wake Turbulence	Aircraft Characteristics and Recognition
Provides basic aeronautical information that will help when communicating with pilots concerning the operation of their aircraft.	Defines wake turbulence, its effect on ATC, and terms and definitions. The different categories of wake turbulence, including characteristics and effects of each different type, will be discussed.	Introduces how different aircraft look, how aircraft perform, and the written and visual identifiers of aircraft.
Airspace	**Title 14 CFRs**	**Title 14 CFR Part 91**
Explains how airspace is classified and organized by ATC and how it uses the airspace to safely direct and separate thousands of aircraft flights each day. This module introduces the different types of airspace as well as the references that provide for their establishment and use.	Covers the rules and regulations listed in the Title 14 Code of Federal Regulations (CFR) that pilots and controllers must follow to be a part of the ATC system and the meaning of selected terms and definitions.	Introduces selected provisions of flight rules pertaining to aircraft operations, pilot responsibilities, and supplemental oxygen requirements.

Block 3

Basic Navigation	Radio and Satellite Navigation	Pilot's Environment
Covers the basics of navigation, the methods of navigation used by a pilot, and times, speeds, distances, and other factors associated with navigation.	Identifies the components of primary and secondary radar systems, how they work, and features of a video map on a radar display. The module also identifies features of Automatic Dependent Surveillance-Broadcast (ADS-B).	Introduces the types of equipment that pilots use to navigate and physiological factors that pilots may encounter during flight.

VFR Charts and Publications	En Route IFR Charts
Introduces the Sectional Aeronautical chart and the Visual Flight Rules (VFR) Terminal Area chart.	Covers En Route Low Altitude and High Altitude Instrument Flight Rules (IFR) charts used by pilots flying on an IFR flight plan.

SIDs and STARs	Approaches
Introduces Standard Instrument Departures (SIDs) and Standard Terminal Arrivals (STARs), which are used by pilots when flying on an IFR flight plan.	Provides an overview of the Instrument Approach Procedures (IAPs), identifies the types of approaches available to pilots, and identifies the charts used to depict these approaches.

Block 4

Fundamentals of Weather and Aviation Weather Services	Hazardous Weather	Current Weather (METAR/SPECI)
Provides an overview of basic principles of weather and elements of the atmosphere.	Describes characteristics of hazardous weather and their effects on aviation.	Identifies the format and contents of the Aviation Routine Weather Report (METAR) and the Aviation Selected Special Weather Report (SPECI).

Forecasts and Advisories	Pilot Weather Reports (PIREPs)
Describes National Weather Service (NWS) forecasts and advisories.	Describes the Pilot Weather Report (PIREP) Program operated by the NWS and the FAA.

Block 5

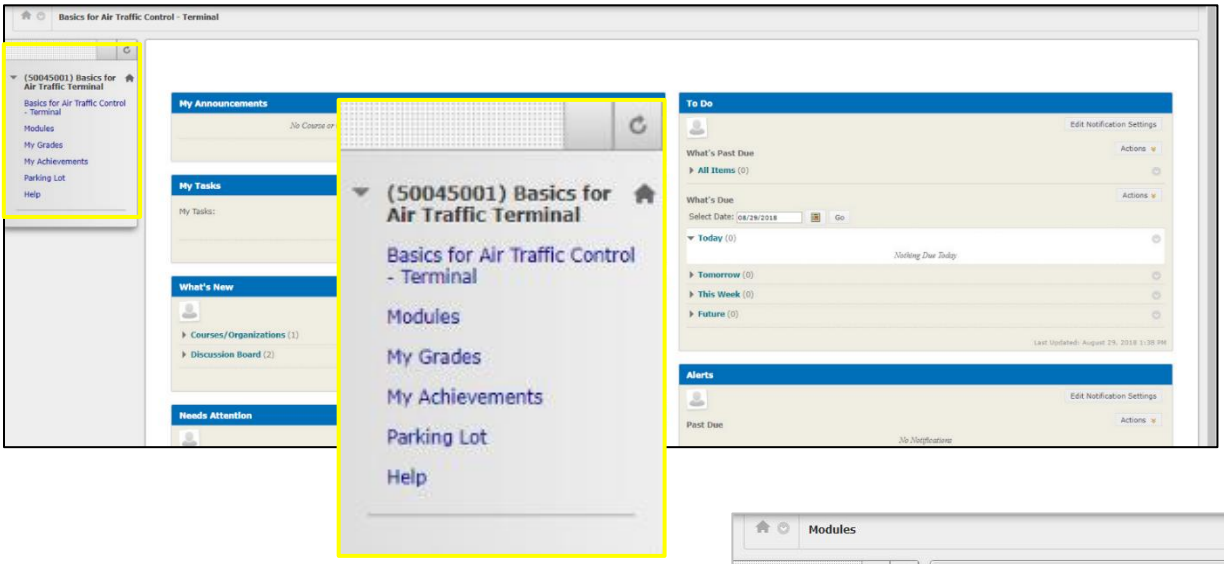
Intro to Emergencies	Search and Rescue (SAR)	Basic Communications
Provides an understanding of the controller's role in an emergency situation.	Covers Search and Rescue (SAR) responsibilities and procedures. It also covers the actions taken when an aircraft becomes unreported, overdue, or missing.	Identifies basic phraseology, communication priorities, ATC communications, coordination procedures, and steps of the position relief briefing.

ATC Clearances	Stripmarking
Provides the purpose and different types of ATC clearances, including appropriate sequence and pilot responsibility for compliance.	Identifies basic outline for stripmarking and the associated symbols for en route and terminal options.

Course Structure

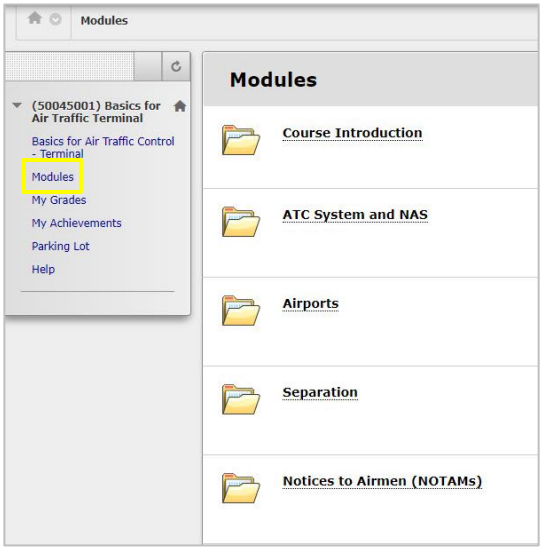
Home Screen

This is the home screen for the Basics for Air Traffic Control course. Along the left side of the home screen is the main menu, where all major components included in the course can be accessed.



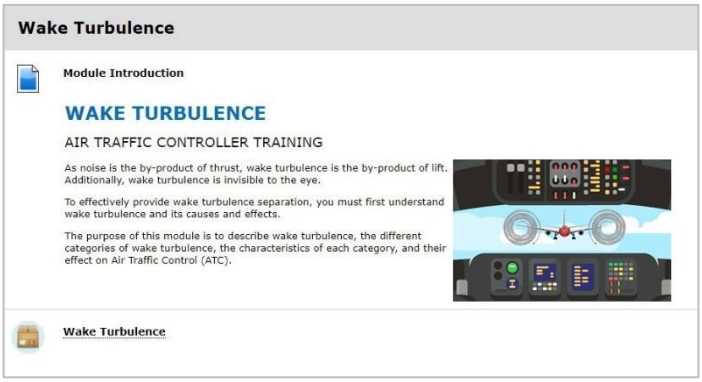
Modules

The modules link within the main menu accesses a list of the course modules. Each folder is linked to the corresponding lessons and lesson materials needed to complete the module.



Module Introduction

Each module provides a brief introduction of the module content at the top of the screen.



Lessons

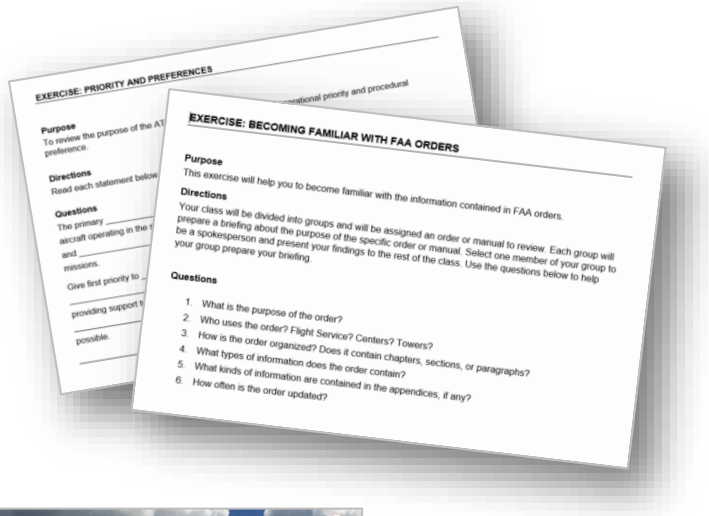
Lessons are identified by the package icon. Select the title to launch the lesson.

Exercises and Activities Folder

Some modules may include exercises, activities, or games that cover content. These are contained in the Exercises and Activities folder. Select the folder, locate the desired item, and select the link to launch or open.

Exercise

Exercises are typically paper-based. The exercise worksheets are included as part of the Student Guide. If required, reference content needed to complete exercises is located in this folder.



Activity

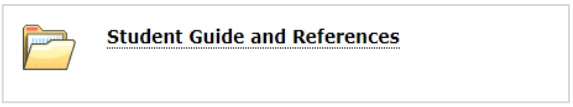
Activities are web-based and provide the opportunity to practice knowledge retention. During an activity, the student responds to questions or scenarios related to the content. Feedback is provided to indicate performance results. Opportunities to repeat the activity during periods of downtime may be provided by the facilitator.

Game

Games are web-based drill/practice that covers content presented in the entire module. Trophies are earned with achievements for 80%, 90%, and 100%. If more than three questions are answered incorrectly, you will be redirected to review content and then try again. Opportunities to repeat the game and increase achievement levels are encouraged during periods of downtime. Trophies are displayed in the My Achievements area of Blackboard.

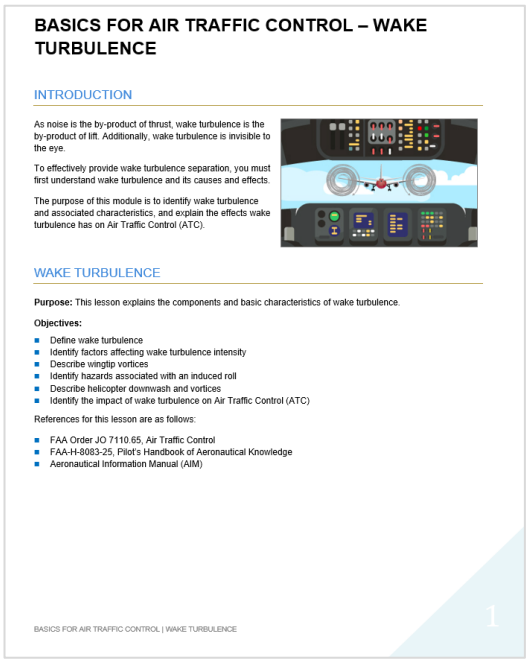
Student Guide and References Folder

Student Guides and links to the references used in the module are provided in the Student Guide and References folder.



Student Guide

The Student Guide is a paper-based reference that contains all the content presented in the module. This document includes information such as: Knowledge Checks, exercise worksheets, and study aids.



BASICS FOR AIR TRAFFIC CONTROL – 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 identify wake turbulence and associated characteristics, and explain the effects wake turbulence has on Air Traffic Control (ATC).

WAKE TURBULENCE

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

Objectives:

- Define wake turbulence
- Identify factors affecting wake turbulence intensity
- Describe wingtip vortices
- Identify hazards associated with an induced roll
- Describe helicopter downwash and vortices
- Identify the impact of wake turbulence on Air Traffic Control (ATC)

References for this lesson are as follows:

- FAA Order JO 7110.65, Air Traffic Control
- FAA-H-8083-25, Pilot's Handbook of Aeronautical Knowledge
- Aeronautical Information Manual (AIM)

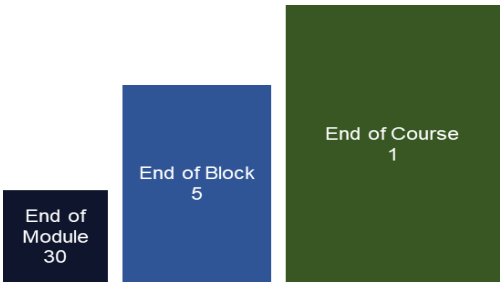
BASICS FOR AIR TRAFFIC CONTROL | WAKE TURBULENCE 1

References

References include the actual source content from which the course materials were derived. Users can access references for validation or to learn more.

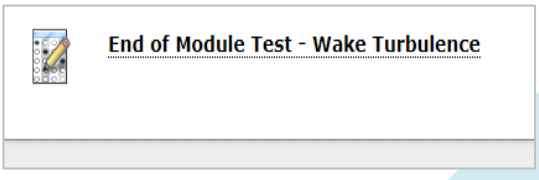
Testing Requirements

Testing is conducted throughout the course at the completion of each module, block of instruction, and at the end of the course. Tests 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 all tests.



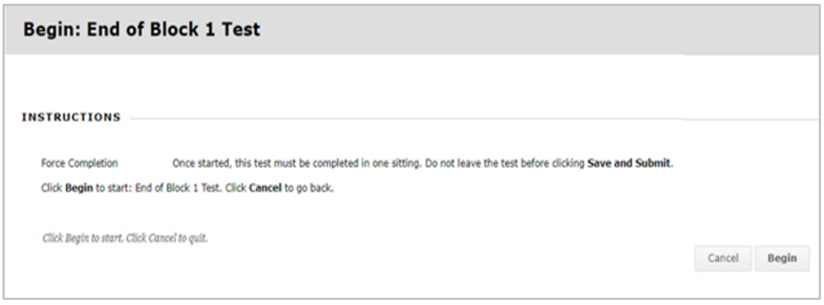
End-of-Module Tests

End-of-Module tests are given following completion of a module. These tests are scored and provide progress feedback. They do not count toward the overall course score; however, they are an indication of mastery of the course content. Detailed instructions on completing the End-of-Module test will be provided by the facilitator at the time of the test.



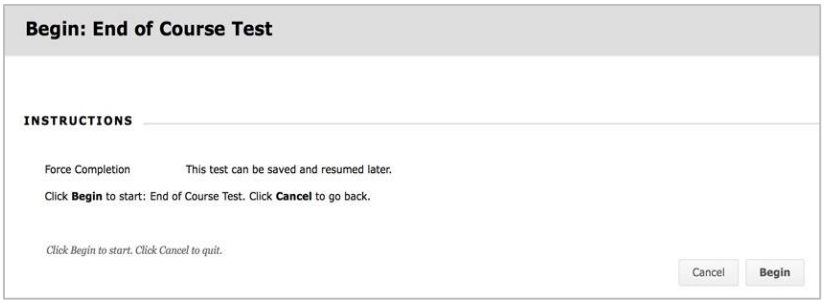
End-of-Block Tests

There are five End-of-Block tests that are comprehensive of all the modules included within the block of instruction. These tests are scored and you will be provided feedback on items missed. A 70% score is considered passing; however, this does not count in terms of a pass/fail decision or continuation of employment. End-of-Block tests serve as an indication of mastery of the course content related to the objectives.



End-of-Course Test

A comprehensive End-of-Course test is given at the end of the course. This test measures the knowledge retention from the entire course based on all objectives. A score of 70% or higher is required to pass and will determine your advancement to the next level training. **NO** retakes are allowed.



Course Requirements

This chart recaps the course components that allow opportunities to increase retention and how they apply to completion of the Basics for Air Traffic Control course.

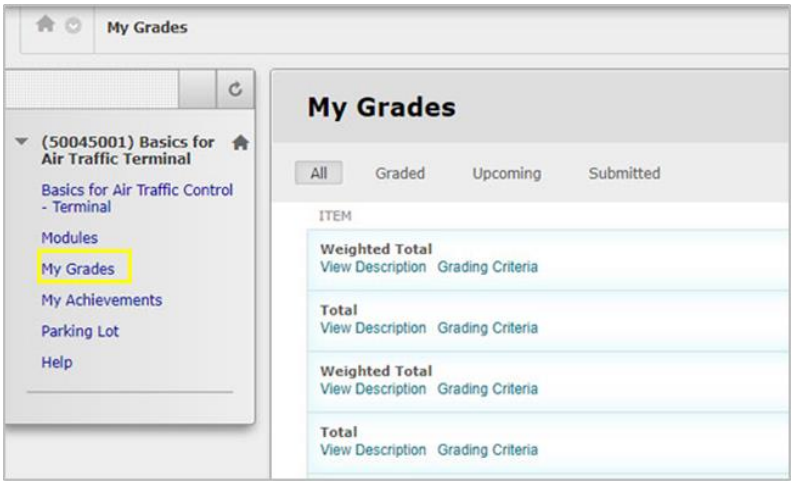
	Scored	Trophy Earned	Option to Repeat	Passing Score Required
Exercises	**No**	**No**	**No**	**No**
Activities	**No**	**No**	**Yes**	**No**
Games	**Yes**	**Yes**	**Yes**	**No**
End-of-Module Tests	**Yes**	**No**	**No**	**No**
End-of-Block Tests	**Yes**	**No**	**No**	**No**
End-of-Course Test	**Yes**	**No**	**No**	**Yes**

Blackboard Features

The following Blackboard features are available in the Basics for Air Traffic Control course.

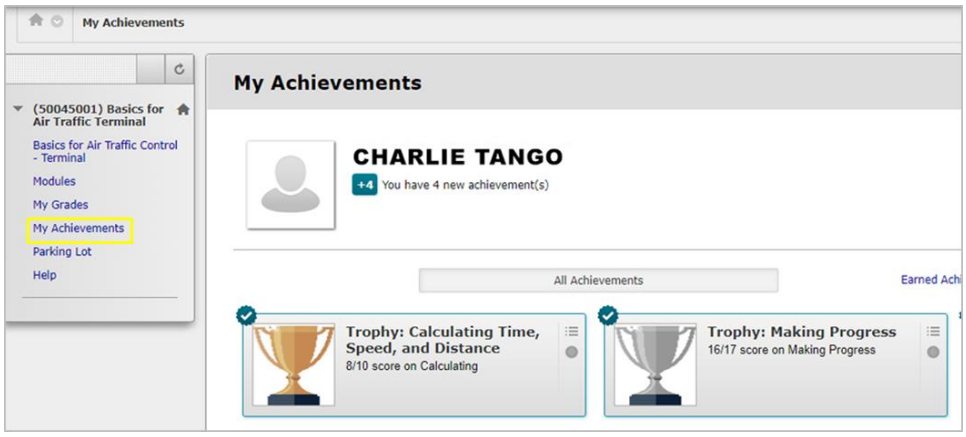
My Grades

My Grades is launched from the main menu and displays a record of all scores achieved on completed tests.



My Achievements

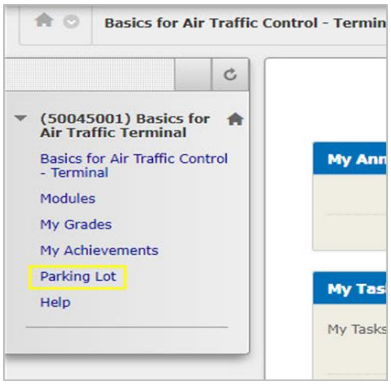
My Achievements displays trophies earned during games.



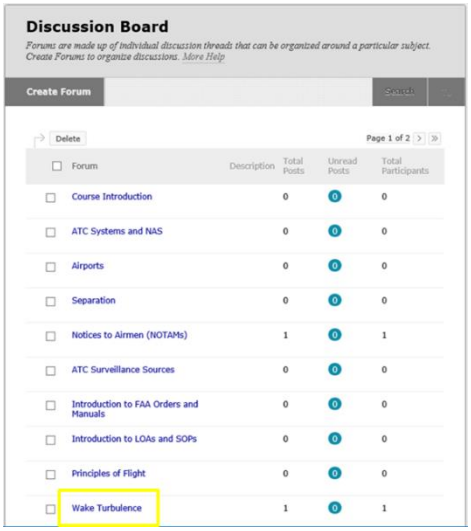
Parking Lot

The parking lot allows students to post questions on a discussion board that the facilitator will answer. Facilitators are notified as questions are submitted. The facilitators will address all questions during question and answer or review sessions. To submit a question:

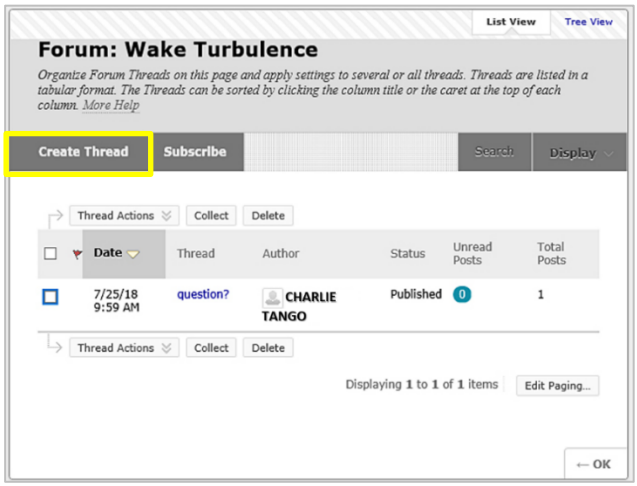
1. Select **Parking Lot** from the main menu.



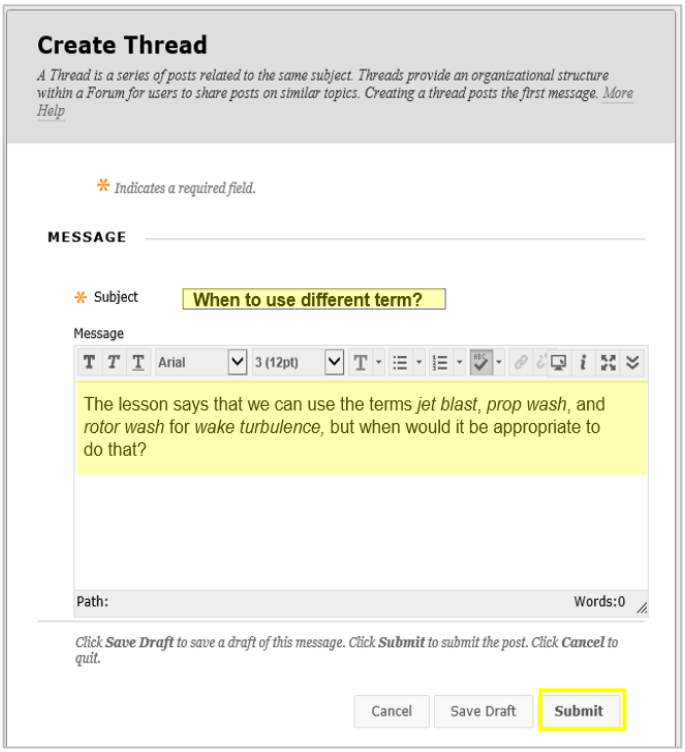
2. Select desired module.



3. Select **Create Thread**.

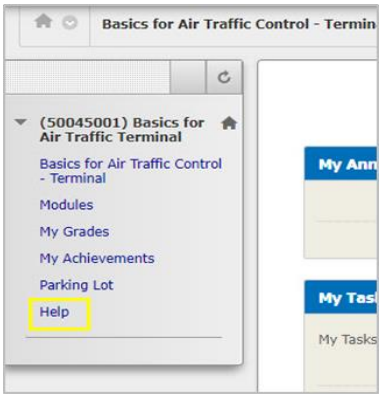


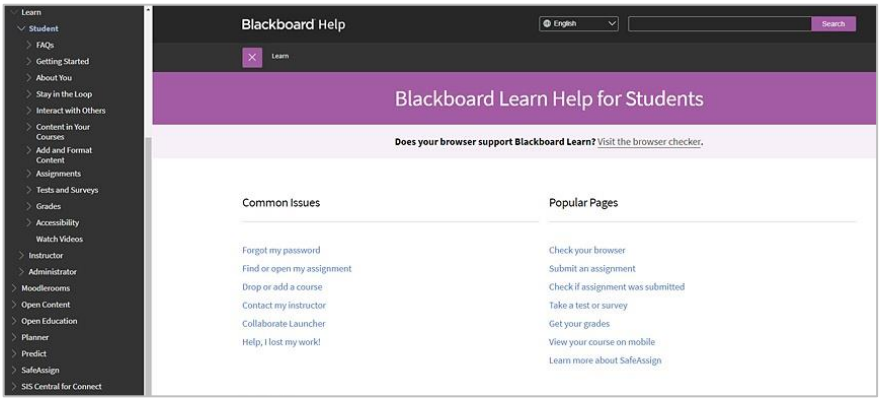
4. Enter a subject.
5. Enter a question or comment.
6. Select **Submit**.



Help

Help can be accessed from the main menu to display Blackboard's built-in help documentation.





LESSON SUMMARY

Controllers working both en route and terminal positions receive the same basic training that you are about to begin. We've covered course features and expectations. Now you are ready to begin.

In accordance with lesson, you should now be able to:

- Identify the features of the Blackboard E-Learning System used in the Basics for Air Traffic Control course
- Identify requirements for completing the Basics for Air Traffic Control course

FACILITATOR INSTRUCTIONS	DELIVERY METHOD
■ Review content presented in ***Basics for Air Traffic Control Course Overview*** lesson ■ Navigate to the ***Parking Lot*** link within Blackboard and review any student questions ■ Address ***Parking Lot*** questions and facilitate a brief discussion of the lesson content	Facilitated Discussion **EST. RUN TIME** 30 mins.