



Air Traffic–Collegiate Training Initiative Program Feasibility in Kentucky

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Research Report

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Air Traffic–Collegiate Training Initiative Program Feasibility in Kentucky

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16. Abstract Each day, Federal Aviation Administration (FAA) air traffic control specialists (ATCSs) handle over 44,000 flights and oversee 29 million square miles of the United States National Airspace System. However, staffing shortages have grown more acute over the past 10 years, which has led to delayed and cancelled flights, a higher number of close misses over a short period of time, and frustrating air travel experiences. While the FAA has redoubled its efforts to recruit more ATCSs, it has limited training capacity. To expand training options available to prospective ATCSs, the FAA is working with postsecondary educational institutions to expand its Air Traffic-Collegiate Training Initiative (AT-CTI). Graduates of Standard and Enhanced AT-CTI programs can accelerate their training. Currently, no postsecondary institution in Kentucky has a Standard or Enhanced AT-CTI program. Pursuant to Senate Bill 87 (<i>AN ACT relating to aviation</i>), which was signed into law in 2025, this report evaluates postsecondary institutions across the state to identify good candidates to establish an Enhanced AT-CTI program. Based on discussions with industry stakeholders, reviews of FAA materials, and assessments of course offerings and degree programs, researchers concluded that Eastern Kentucky University (EKU) is the only public postsecondary institution in the state with the capacity to establish and maintain an FAA-approved air traffic control program. In early 2025, EKU's School of Aviation submitted an initial application to the FAA to establish an Enhanced AT-CTI program.				
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Executive Summary

The Federal Aviation Administration (FAA) manages over 44,000 flights per day and oversees 29 million square miles of the US National Airspace System. Air traffic control specialists (ATCSs) are responsible for coordinating aircraft movements nationwide, however, staffing shortages at air traffic control (ATC) facilities have become more pronounced in recent years, resulting in flight delays and cancellations as well as multiple close calls over a short period of time. While the FAA has kicked off a supercharged hiring campaign to recruit ATCSs, the FAA Academy — a primary training ground for new controllers — faces capacity limits. To increase training options available to recruits, the FAA is working with postsecondary educational institutions to expand its Air Traffic–Collegiate Training Initiative (AT-CTI). Those who complete the Standard or Enhanced AT-CTI programs are able to accelerate their training.

No postsecondary institution in Kentucky offers the Standard or Enhanced AT-CTI program. The nearest school that does so is Kent State University (Ohio). Because Indiana, Missouri, Tennessee, and West Virginia also lack institutions with Standard or Enhanced AT-CTI programs, an FAA-credentialed AT-CTI school would likely attract students to Kentucky from neighboring states.

Signed into law in March 2025, Senate Bill 87 (*AN ACT relating to aviation*) directs that the Council on Postsecondary Education (CPE), in coordination with the Kentucky Transportation Cabinet (KYTC), conduct a study “to identify the procedures and resources necessary to establish a program at one or more public postsecondary education institutions that leads to a credential recognized by the Federal Aviation Administration [FAA] for employment within the field of air traffic control or air traffic safety.” This report fulfills the mandate by evaluating the capacities of Kentucky postsecondary education institutions to establish and support air traffic control or air traffic safety programs, specifically the Enhanced AT-CTI program.

To identify postsecondary institutions that are good candidates to host an AT-CTI program, researchers examined FAA materials to understand program requirements; interviewed industry stakeholders; canvassed presidents of colleges and universities across the state to gauge interest in starting up a new program; evaluated the capacity of each school to establish and maintain an Enhanced AT-CTI program; and reviewed majors, course offerings, and institutional capabilities to determine whether schools meet the FAA’s Standard and Enhanced AT-CTI program eligibility criteria.

Currently, Eastern Kentucky University (EKU) is the only public postsecondary institution in the state that has the capacity to establish and maintain an FAA-approved air traffic control program. It will meet basic institutional eligibility requirements for the Standard AT-CTI program after adding courses to cover learning objectives of the FAA’s Basics for Air Traffic Control course. In early 2025, the university’s School of Aviation submitted an initial application to the FAA to establish an Enhanced AT-CTI program. EKU has proposed a new concentration in Air Traffic Management whose curriculum is mapped to the Basics for Air Traffic Control learning objectives and the FAA Tower IQ and/or En Route IQ curriculum.

Moving from the proposal through to the development of an Enhanced AT-CTI program is a lengthy and complex process. Schools that want to establish a program may find it beneficial to partner with a consultant experienced in working through this process and navigating challenges related to the FAA’s non-disclosure agreement. Any postsecondary educational institution in the state that establishes an air traffic control program prior to July 15, 2026, is eligible to seek funding through the Kentucky Aerospace, Aviation, and Defense Investment Fund (Senate Bill 127) (AERO Act), to offset costs.

Chapter 1 Introduction

In March 2025, Governor Andy Beshear signed Senate Bill 87 (*AN ACT relating to aviation*) into law. Section 9 (1) of the legislation directs the Council on Postsecondary Education (CPE), in coordination with the Kentucky Transportation Cabinet (KYTC), to conduct a study “to identify the procedures and resources necessary to establish a program at one or more public postsecondary education institutions that leads to a credential recognized by the Federal Aviation Administration [FAA] for employment within the field of air traffic control or air traffic safety” (see Appendix A for full text). In collaboration with CPE staff, Kentucky Transportation Center (KTC) researchers prepared this report to fulfill the mandate. The report:

- Evaluates the capacities of Kentucky postsecondary education institutions to establish and support an air traffic control or air traffic safety program, and
- Assesses the feasibility of establishing a FAA Academy at one of the institutions.

By December 1, 2025, CPE must submit this report to the Legislative Research Commission to refer to the appropriate interim joint committee and notify the president and governing board of any institution identified having the capacity to support an air traffic program so that the institution can submit a request to the council to establish the program. CPE will support any institution which submits a request and facilitate program development. By June 30, 2026, requests from any public postsecondary institutions will be approved by CPE.

1.1 Background

The FAA requires that prospective air traffic controllers (ATSCs) meet strict eligibility qualifications, medical standards, and training requirements. Among the basic eligibility criteria is either a year of “progressively responsible” work experience, a bachelor’s degree (in any field), or at least a year of combined postsecondary education and work experience. FAA Order JO 3120.4S outlines detailed training requirements.¹ ATCS candidates typically complete coursework and attend the FAA Academy in Oklahoma City. Academy graduates are assigned to locations across the country where they receive 2 – 3 years of classroom and on-the-job (OJT) training under the close supervision of senior controllers.

Understaffing at air traffic control facilities throughout the United States (US) has worsened over the past 10 years, resulting in more numerous flight delays and cancellations. The FAA has implemented hiring initiatives to attract applicants and streamline hiring. However, training takes time and requires instructors, who are in short supply, and the FAA’s Training Academy has limited space.

The Air Traffic-Collegiate Training Initiative (AT-CTI) Program provides an alternative pathway to become an ATCS. This program supports non-funded partnerships between FAA and FAA-approved universities and colleges that offer at least one non-engineering aviation degree (typically an associate’s or bachelor’s) to prepare graduates for ATCS positions. There are two types of AT-CTI programs: Standard and Enhanced. Graduates from institutions with Standard AT-CTI programs are eligible to bypass the FAA Academy’s first five-week Air Traffic Basics Course. Enhanced AT-CTI programs provide FAA Academy-equivalent training. The Enhanced AT-CTI is a “direct to hire” program that

¹ https://www.faa.gov/documentLibrary/media/Order/FAA_Order_JO_3120.4S_AdminUpdate_VP_--Correct_Updated_Version-Dec_6.pdf

allows graduates to bypass the FAA Academy entirely and go directly to on-the-job training at an air traffic control facility.

Kentucky does not have an FAA-approved AT-CTI institution, nor do Indiana, Missouri, Tennessee, or West Virginia. The nearest postsecondary institution that houses an AT-CTI program is Kent State University (Ohio). An FAA-credentialed AT-CTI school would likely attract candidates to Kentucky from neighboring states.

FAA began implementing regulatory and policy changes in February 2025 and new orders are still being issued at the time of this report's writing. Orders include modifications to hiring policies, standards, and guidance for operating air traffic facilities (i.e., FAA Order JO 7210.3EE² – Facility Operation and Administration). Information presented in this report is current as of October 2025.

1.2 Report Objectives

This report has several objectives:

- Review AT-CTI institutional requirements and procedures required to establish a new program.
- Identify challenges and barriers to creating, supporting, and maintaining an FAA-approved postsecondary education air traffic control program. Solicit input from administrators and/or instructors at current AT-CTI institutions and the FAA Academy.
- Based on surveys, interviews, and site visits, or other available information, identify Kentucky postsecondary institutions with the capacity to establish an Enhanced AT-CTI program.
- Develop a checklist or flowchart that can be used to easily identify Kentucky postsecondary institutions with AT-CTI program capabilities.

² https://www.faa.gov/air_traffic/publications/atpubs/foa_html/

Chapter 2 Background

2.1 Air Traffic Control Staffing Challenges

The FAA manages over 44,000 flights per day and oversees 29 million square miles of the US National Airspace System (NAS) (FAA, *Air Traffic* and FAA, 2023). ATCSs are responsible for maintaining “safe and efficient air navigation services” across the US National Airspace System (NAS) (FAA, 2025b). Today, over 14,000 air traffic controllers staff 527 airport traffic control towers.

The FAA has come under scrutiny for staffing shortages at air traffic control facilities. As air travel rebounded in 2022 and 2023 following the Covid-19 pandemic, the US experienced increased flight delays, cancellations, and close calls over a short period of time (Strickland et al., 2025). When traffic demand exceeds the number of aircraft that ATCSs can safely handle, staff shortages can delay flights and shut down airports (Strickland et al., 2025). For instance, in June 2025, Bluegrass Airport (LEX) had to route air traffic control through Indianapolis to address staffing shortages.

Strickland et al. (2025) detail factors that precipitated the current air traffic controller shortage and offer several recommendations to increase the number of Certified Professional Controllers (CPCs). Each year between, FY 2013 and 2023, the FAA’s operational arm, the Air Traffic Organization (ATO), lost an average 1,330 ATCSs. Due to multiple factors, the FAA was only able to hire about two-thirds of what hiring models called for to meet facility staffing standards and targets. About 30% of FAA facilities are experiencing significant shortages (i.e., 10% below staffing targets). Among the largest facilities, 19 have fallen at least 15% below staffing target ranges. ATCSs at understaffed facilities work longer hours and deal with fatigue-inducing schedules.

FAA increased ATCS hiring targets in FYs 2023 and 2024. In 2024, the FAA reported having 14,264 full-time equivalent (FTE) controllers (FAA, 2025d). That year, the agency hired over 1,800 controllers, exceeding hiring targets, but had slightly higher attrition than expected (1,400 versus 1,384 planned losses). Overall, the ATCS workforce grew by 411 people in FY 2024.

In February 2025 the US Department of Transportation and FAA began a “supercharged hiring campaign” intended to incentivize highly qualified candidates with higher pay (30% increase). The FAA expects to hire 8,900 new air traffic controllers by 2028 (FAA, 2025d). But the agency also anticipates higher attrition (a total of 6,872), driven primarily by FAA Academy and developmental training failures.

FAA models maximum ATCS hiring targets based on the FAA Academy’s capacity limits. Multiple factors influence the training pipeline, including limits on the number of available instructors and caps on the number of new trainees that can be assigned to air traffic control field facilities without impacting the quality of training at those facilities. Most instructors are former CPCs, and recruiting individuals to Oklahoma City, where the FAA Academy is located is challenging. The FAA is studying options to expand the pipeline of CPCs and looking for ways to accelerate training, both at the Academy and facilities.

2.2 Air Traffic Control Functions

ATCSs generally train and work at air traffic control facilities, which are categorized by function:

- Tower Control
 - Tower located at an airport where ATCSs manage aircraft on the ground and immediate airspace for take-off and landings.
- Terminal Radar Approach Control (TRACON)

- Facilities that typically use radar and air/ground communications to manage aircraft arriving and departing from a primary airport and adjacent airports, and transiting the terminal airspace (FAA, OPSNET: Facility Classification). Some facilities combine tower control and TRACON control.
- En Route Center (Air Route Traffic Control Center [ARTCC])
 - Manages aircraft at higher cruising altitudes over long distances as they transit between airports.

There are also specialized towers, such as Federal Contract Towers (FCT), that operate privately under contract with the FAA. During their training, controllers choose either a Terminal control option (for either a Tower or TRACON facility) or ARTCC center.

2.3 Air Traffic Control Hiring and Training Process

ATCS job announcements are posted on usajobs.gov (Broach et al., 2019; FAA, 2025c). Applicants must meet the following eligibility requirements (FAA, 2025a):

- Be a US citizen
- Be under the age of 31
 - Note: FAA is considering raising this threshold to expand the applicant pool (Strickland et al., 2025).
- Pass a medical examination
- Pass a security investigation
- Pass the FAA air traffic pre-employment tests, including the Air Traffic Controller Specialists Skills Assessment Battery
- Speak English clearly enough to be understood over communications equipment
- Have one year of progressively responsible work experience, or a bachelor's degree, or a combination of post-secondary education and work experience that totals one year

Medical and psychological screenings are rigorous, and some physical impairments/medical conditions are disqualifying (e.g., any prior marijuana use). Specific health requirements are detailed in FAA Order 3930.3C.³ Controllers must requalify through annual medical exams.

Hiring procedures, eligibility criteria, and the number of trainees selected can be modified with little notice. The FAA last updated its hiring procedures in 2025 in an effort to streamline and automate the process. Applicants without prior air traffic control experience follow these hiring steps (FAA, 2025c):

1. Submit an application through usajobs.gov.
2. Pass the Air Traffic Skills Assessment (ATSA).
3. Pass medical and security/background clearances.
4. Receive and accept offer.
5. Begin FAA Academy training.

³ https://www.faa.gov/regulations_policies/orders_notices/index.cfm/go/document.information/document-tID/1036090

2.3.1 Air Traffic Skills Assessment (ATSA)

Applicants must pass the Air Traffic Skills Assessment (ATSA), a 3.5 hour in-person aptitude test. As of 2025, applicants can receive one of three scores on the test: failed, qualified, and well-qualified.⁴ Currently, the FAA will only select well-qualified candidates (a score of 85% or higher). Applicants may take the test more than once. Each well-qualified candidate receives a tentative hiring letter (Strickland et al., 2025). Applicants that are not selected may have a path to work a non-controlled tower (AT-CTI Program Office, personal communication).

The FAA typically receives 12,000 – 13,000 applications per year from the general public and students from Air Traffic–Collegiate Training Initiative programs, along with an additional 1,000 to 1,400 from applicants with prior experience (Strickland et al., 2025). In fiscal year (FY) 2024 among the 12,859 applicants:

- 67% (8,625) met the initial screening criteria and were eligible to take the ASTA test,
- 62% (5,329) took the test,
- 41% (2,184) received a score of well-qualified.
- 12.7% (1,811) were hired. From application to hiring takes 6 – 10 months.

Usually, fewer than 10% of applicants meet eligibility qualifications and are accepted into the FAA training program (FAA, 2025c).

New hires begin with institutional training at the FAA Academy in Oklahoma City. They start with a five-week Basics for Air Traffic Control course and progress to specialized rating training for a specific type of control: Tower, TRACON, or ARTCC. Rating training takes approximately 3 – 5 months (Strickland et al., 2025). Training modalities include instructor-led and/or classroom training and simulation training.

Once a trainee successfully completes the FAA Academy, they are assigned to an air traffic control facility in developmental controller positions. They receive 1 – 3 years OJT training with live traffic under the supervision of an OJT Instructor (Broach et al., 2019; FAA, 2025a).

ATCSs that successfully progress through OJT training take an exam to become a CPC. CPCs have mastered all positions in their facility and account for most of the work controlling traffic (Strickland et al., 2025). From initial hire to becoming a CPC takes on average 5 – 5.5 years (Strickland et al., 2025).

FAA Order JO 3120.4S⁵ details training requirements for ATCSs as determined by the ATO. The FAA's Catalog of Training database⁶ lists all active Air Traffic Training courses and provides course descriptions. The American Council on Education (ACE) catalogues courses offered (active and inactive) at the FAA Academy in the *ACE National Guide*.⁷ FAA Academy courses have been evaluated by ACE and are eligible for college credit.

⁴ <https://www.faa.gov/atc-hiring>

⁵ https://www.faa.gov/documentLibrary/media/Order/FAA_Order_JO_3120.4S_AdminUpdate.pdf#page=23

⁶ <https://academy.faa.gov/catalog/Cpnt/List?trainingType=COURSE&ContentOwner=&trainingOrg=&Delivery-Method=&Category=AT>

⁷ <https://www.acenet.edu>

2.3.2 Basics for Air Traffic Control Course

New hires begin by taking the Basics for Air Traffic Control course unless they (a) graduated from a Standard AT-CTI program and opt out, or (b) graduated from an Enhanced AT-CTI program and were hired with an endorsement letter. The Basics for Air Traffic Control course is for students with no prior air traffic control experience and provides foundational knowledge to place trainees in the Terminal option.

The synchronous, web-based course addresses the following topics: introduction to the air traffic control system, publications, 14 CFR (aeronautics and space regulations), principles of aerodynamics, aircraft types and characteristics, fundamentals of navigation, pilot's environment, flight assistance and emergencies, wake turbulence, weather, and communications (FAA Order JO 3120.4S, D2). FAA's Basics for Air Traffic Control Information Sheet (Appendix B) lists learning objectives and training modules.

2.3.3 Initial Qualification Training (IQT)

Trainees complete initial qualification training (IQT) based on the type of control facility (Terminal/TRACON or ARTCC) they are assigned to at hire. Appendix D of FAA Order JO 3120.4S (*Terminal Instructional Program Guide*) details all requirements for Terminal training from Academy through CPC certification; Appendix E (*En Route Instructional Program Guide*) describes stages of instruction for ARTCC training. Coursework includes in-person instruction, hands-on laboratory training, and high-fidelity simulation exercises.

Terminal training is broken into seven stages:

- Stage 1A: Initial Tower Cab Training (Course 50046 or current course). The course teaches Tower Cab procedures. It consists of training 296 hours.
- Stage 1B:
 - a. Terminal Basic Radar Training (Course 50034001 or current course). The course is designed for trainees with the TRACON facility option and teaches RAPCON procedures. It has several pre-requisites.
 - b. TRACON Skill Enhancement Workshop (TSEW) (Course 50056002 or current course). The advanced course is intended for trainees who will go to level 9-12 radar facilities. The course is 120 hours.
 - c. Ten, Eleven, Twelve Radar Assessment (TETRA) (Course 50070001). The course is intended for trainees of level 10-12 Terminal Radar Facilities. The course is 160 hours.
- Stage 2. Flight Data (Course 55060 or current course)
- Stage 3. Clearance Delivery (Course 55061 or current course)
- Stage 4. Ground Control (Course 55062 or current course)
- Stage 5. Local Control/Cab Coordinator Position Training (Course 55063 or current course)
- Stage 6. Nonradar Terminal Control (Course 55064 or current course)
- Stage 7. Radar/Handoff/Coordinator Controller Training (Course 55065 or current course)

En Route (ARTCC) training stages are similar to the Terminal Stages:

- Stage 1. Initial En Route Qualification Training (IQT) (Course 50148001 or current course).
- Stage 2.
 - a. En Route Radar Flight Data Training (Course 55053 or current course)
 - b. En Route Radar Associate Training (Courses 55054001, 55054002, and 55054003, or current courses)
- Stage 3. En Route Radar Controller Training (Course 55055 or current course)

Upon completion of IQT, trainees progress to Field Qualification Training (FQT) at a facility where they receive classroom instruction, simulation experience, and supervised OJT. OJT at the field facility cannot begin until a trainee completes simulation instruction.

FAA Order JO 3120.4S details the *Simulation Criteria and Development* for Terminal and ARTCC instruction: “Simulation training provides the trainee an opportunity to learn and demonstrate, under simulated conditions, all the knowledge and skills required of a CPC” (p. D-19). There are four types of simulation scenarios that vary in complexity: instructional, pre-evaluation, evaluation, and recovery. Scenario objectives are extensive. For Terminal facilities, they cover ground control, local control, level wind shear (LLWS), and radar. For En Route simulation, content includes topics like hazardous weather, emergencies (e.g., loss of communication), and air traffic conflicts.

Each simulation training evaluation requires an instructor guide and remote pilot guide scenario with simultaneous timing of events to the ATCS trainee’s simulation scenario. The instructor guide relays “instructional intent,” while the remote pilot guide “provide[s] the Remote Pilot Operator (RPO) with instructions essential to ensure consistency. Pertinent remarks, such as when to declare an emergency, the type of emergency and pilots’ intentions, altitude requests, weather deviations, destination changes, PIREPs, etc., should be noted in the remote pilot guide” (p. D21). Simulation technology vendors assist facilities with meeting the necessary equipment specifications for high-fidelity laboratories.

Individuals with CPC status attend proficiency trainings throughout their careers to keep their knowledge and technical skills up to date. The extent of continuing education is beyond the scope of this report.

2.4 Air Traffic–Collegiate Training Initiative (AT-CTI)

Due to capacity limitations at the FAA Academy, FAA is looking to expand the AT-CTI Program, which was established in 1991 (Broach et al. 2019). Under 49 USC 44506 (c), the FAA can maintain the AT-CTI Program by making and maintaining agreements with institutions of higher education and establishing institutional standards for entry and continued participation. The FAA may appoint a person who has completed an AT-CTI training course to a noncompetitive–level ATCS position which may be later converted to a “career conditional or career appointment in the competitive civil service... when the individual achieves full performance level air traffic controller status.” The AT-CTI Program is managed by FAA AT-CTI Program Office, in the ATO Safety and Technical Training Service Unit’s Technical Training Directorate (AJI-2) (FAA, 2025e).

Until 2024, FAA had only one classification of AT-CTI. Now there are two — (1) Standard and (2) Enhanced. The Standard AT-CTI program is offered at FAA-approved community colleges and universities that provide a two-year associate’s or four-year bachelor’s non-engineering degree related to aviation or aeronautics and delivers the FAA Academy Basics for Air Traffic Control course curriculum throughout the degree roadmap. FAA provides each school with the course curriculum, and programs are required to map learning objectives to course offerings. Graduates who complete a degree and who are well-prepared, are eligible to apply for an ATCS job opening and bypass the FAA Academy’s Basics for Air Traffic Control course. This lets hires progress to specialized training at the FAA Academy sooner and graduate to OTJ training more quickly.

In 2024, Tulsa Community College and University of Oklahoma became the first schools to offer the Enhanced AT-CTI program (FAA, 2024a). The Enhanced AT-CTI program mimics and replaces the FAA Academy in Oklahoma. Enhanced AT-CTI schools offer the “same thorough curriculum and advanced training technology offered at the FAA’s Air Traffic Controller Academy in Oklahoma City” (FAA, 2025f). Institutions with the Enhanced AT-CTI program deliver the FAA Academy’s Basics for Air Traffic Control course curriculum alongside specialized courses focused on

managing air traffic in tower facilities. Embry-Riddle Aeronautical University is the only school that has partnered with FAA to offer the Tower and En Route training programs. Students train on high-fidelity air traffic control simulators and are exposed to the same scenarios used at the FAA Academy. Enhanced AT-CTI programs must meet stringent participation requirements for faculty, curriculum, and technology.

Students in Enhanced AT-CTI programs go through a hiring process similar to that of the general public: apply, pass the ATSA, and meet medical and security requirements. Program graduates must also pass performance verifications and receive an official endorsement certificate, which is a letter their school submits to the FAA recommending the student for hire and documenting their completion of the degree and all requirements (FAA, 2025f; 2024b). Upon successful completion of these requirements, the graduate is placed directly in an ATC facility for OTJ training.

As of June 2025, about 50 schools had begun the application process for establishing an Enhanced AT-CTI program (AT-CTI Program Office, personal communication). As of September 2025, FAA has partnered with nine schools for the Enhanced AT-CTI program (Wiles, 2025):

- Embry-Riddle Aeronautical University (Daytona Beach, Florida, and Prescott, Arizona)
- University of Oklahoma (Norman, Oklahoma)
- Tulsa Community College (Tulsa, Oklahoma)
- SUNY Schenectady County Community College (Schenectady, New York)
- University of North Dakota (Grand Forks, North Dakota)
- Vaughn College of Aeronautics and Technology (Flushing, New York)
- Nashua Community College (Nashua, New Hampshire)
- Middle Georgia State University (Eastman, Georgia)

Some Enhanced AT-CTI schools offer only a relevant associate's degree (e.g., SUNY Schenectady County Community College and Tulsa Community College), some offer only a bachelor's (University of North Dakota and University of Oklahoma), and some offer both (Embry-Riddle Aeronautical University—Daytona Beach, Middle Georgia State University, and Vaughn College of Aeronautics and Technology).

Figure 2.1 shows the locations of AT-CTI schools (FAA, 2025g).⁸

⁸ <https://www.faa.gov/jobs/students/schools>

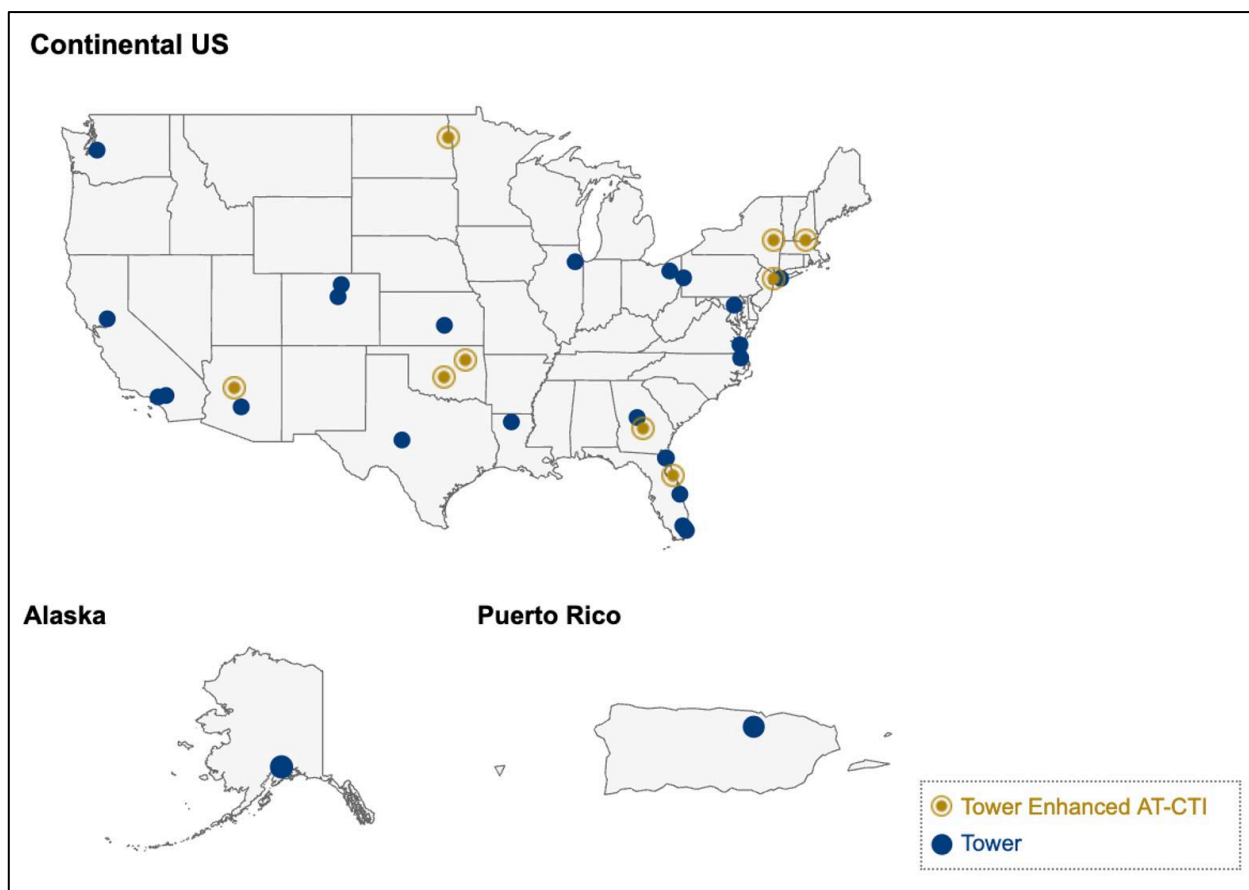


Figure 2.1 AT-CTI Map

2.5 Control Tower Operator Partnership (CTO-P)

In mid-2025 the FAA established the Control Tower Operator Partnership (CTO-P)⁹ to boost the number of air traffic controllers at FCTs (FAA, 2025h). Postsecondary institutions that participate in the CTO-P will cover the FAA Basics for Air Traffic Control and Tower IQ courses, meet stringent faculty qualifications criteria, and adhere to technology requirements. Unlike the Enhanced AT-CTI, the CTO-P does not limit an institution's type or accreditation and is not a direct path to an FAA facility.

The remainder of this report focuses on Standard and Enhanced AT-CTI program requirements and discusses the capacities of Kentucky's public postsecondary schools to maintain an FAA-approved ATC training program.

⁹ https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/mission_support/faa_contract_tower_program/cto-p

Chapter 3 Review of the Air Traffic–Collegiate Training Initiative

3.1 Basic Eligibility for Institutions to Apply for Participation

FAA Resource and Participation Guides outline basic requirements for institutions that want to establish an AT-CTI program; they also specify requirements related to maintaining AT-CTI status and program management. Appendix C reproduces the *Standard Air Traffic — Collegiate Training Initiative Resource and Participation Guide (Version 1.2)*, and Appendix D includes the *Enhanced Air Traffic — Collegiate Training Initiative Resource and Participation Guide (Version 2.0)*. FAA provides these guides to institutions demonstrating interest in the AT-CTI, but they are currently unavailable via FAA’s website. FAA has published the *Control Tower Operator (CTO) Partnership Program Resource and Participation Guide (Version 2.0)*.¹⁰ AT-CTI Program Managers provided KTC and CPE researchers with copies of the guides for this report.

AT-CTI eligibility requirements are based on the following criteria:

- Institution type
- Accreditation
- Degree
- Initiative participation
- Faculty
- Curriculum
- Non-disclosure agreement (Enhanced only)
- Technology (Enhanced only)
- Testing

Table 3.1 summarizes key requirements for institutions that want to establish an AT-CTI Standard or Enhanced program (for details see FAA, 2025e and FAA, 2024). Requirements for the Enhanced program are more stringent.

Table 3.1 FAA's AT-CTI Standard and Enhanced Institutional Eligibility Requirements

Institution Type	
Standard	Enhanced
• Be a degree-granting, not-for-profit, two- or four-year postsecondary educational institution, either public or private.	
Accreditation	
Standard	Enhanced
• Have regional or national equivalent institutional accreditation by a US accrediting organization recognized by the Council for Higher Education Accreditation (CHEA). • Be listed in the Department of Education’s Database of Accredited Postsecondary Institutions and Programs.	
Degree	
Standard	Enhanced
• Currently offer at least one non-engineering aviation degree.	

¹⁰ https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/mission_support/faa_contract_tower_program/cto-p/cto-program-resource-participation-guide.pdf

- The FAA considers a degree or certificate viable only if it is active and students graduate with the degree or certificate. - The FAA AT-CTI Program Office allows non-engineering aviation accredited degree programs to be considered for application under the FAA Standard AT-CTI [and Enhanced AT-CTI].	
Includes bachelor's degrees, associate's degrees, and undergraduate minors associated with a non-engineering aviation major course of study that meet the abovementioned provisions. The accredited degree program must contain the FAA-required curriculum.	Includes master's, bachelor's, associate's degrees, one-year certificate programs, and undergraduate minors associated with a non-engineering aviation major course of study that meets the abovementioned provisions. The accredited degree program must deliver the FAA-required curriculum.
Initiative Participation	
Standard	Enhanced
Complete the Standard AT-CTI review process and adhere to initiative participation requirements outlined in the Resource and Participation Guide and MOU.	Complete the Enhanced AT-CTI review process and adhere to initiative participation requirements outlined in the Resource and Participation Guide.
Faculty	
Standard	Enhanced
- The institution must have a process for review of faculty requirements. - Institutions should be aware of the FAA's Ethics Policy Statement on Teaching AT-CTI curriculum that prohibits current FAA employees from teaching AT-CTI curriculum at AT-CTI institutions. [The FAA prohibits current FAA employees from teaching Enhanced AT-CTI curriculum at (any) institution.]	
- Have at least one faculty member who was a CPC or has a current pilot's license with an instrument rating. - Faculty members must have a minimum average of three years of teaching experience. - All faculty instructing students must have a bachelor's degree from an accredited institution.	- Faculty members who teach the IQ Academy curriculum and simulation must have a minimum of three (3) years of fully credentialed experience as one of the following: - FAA Certified Air Traffic Control Specialist (ATCS) - Military controllers with FAA credentials - International Civil Aviation Organization (ICAO) air traffic controllers - Control Tower Operator (CTO) controllers - Faculty must have at least two (2) years of CPC, or equivalent, of the specialty they teach. Note: AT Basics curriculum may be taught by an experienced air traffic controller as listed above or a faculty member with a minimum of three (3) years of teaching experience and a bachelor's degree from an accredited institution. Faculty requirements will be audited in accordance with Appendix B, Auditing Checklist.
Curriculum	
Standard	Enhanced
Have a method to assess and update the course curriculum.	

• Have a process to verify the effective and efficient presentation of course content. • Virtual courses are acceptable for the classroom curriculum. • Current FAA Academy curriculum will be provided via the shared Huddle Workspace.	
• Cover the learning objectives in the FAA AT Basics course. • AT Basics objectives must be mapped to the aviation curriculum and clearly show where each objective is taught.	• Cover the learning objectives in the FAA AT Basics and Tower and/or En Route IQ course, • AT Basics, Tower IQ, and En Route IQ objectives must be mapped to the aviation curriculum and clearly show where each objective is taught. • Simulations will not be conducted virtually.
Testing	
Standard	Enhanced
• Have a clear method for comprehensively testing students' mastery of the AT Basics learning objectives.	
• Complete AT Basics Testing Blueprint provided on Huddle.	• For IQ training, follow the guidance listed in the Resource and Participation Guide.
Non-Disclosure Agreements (NDA)	
Standard	Enhanced
—	• Will be signed between the institutions and the FAA to ensure the sanctity and security of the curriculum and evaluations.
Technology	
Standard	Enhanced
—	• See Table 3.2.

3.2 AT-CTI Application Process

The application process to receive Standard AT-CTI certification is relatively straightforward, while requirements for the Enhanced AT-CTI certification are more stringent.

1. *Initial Application: Submit the online AT-CTI Initial Application Form¹¹ expressing interest.*

- The AT-CTI Program Office begins by verifying that the postsecondary institution is accredited and has an active non-engineering aviation course of study (bachelor's, associate's, and undergraduate minors).

The FAA's AT-CTI Program Office uses an online portal (Huddle Workspace) for application submission and document sharing. The Huddle Workspace contains the instructions, documents, and program specifications required for each school. These materials are unavailable outside of Huddle Workspace, and the FAA Program Office cannot provide them to non-applicants. Following initial approval, FAA provides applicants access to the Huddle site.

Non-Disclosure Agreement (NDA) (Enhanced AT-CTI Only): After the AC-CTI Program Office verifies the Initial Application, it provides the institution with an NDA to sign. The primary purpose of the NDA is to protect the high security of Enhanced AT-CTI simulation evaluations (Tony LaRosa, personal communication). Institutions with Enhanced AT-CTI programs must create simulation scenarios themselves.

¹¹ <https://app.smartsheetgov.com/b/form/fecf6f8f3e9142bfab28d98e0f0f03b9>

FAA's AT-CTI program managers are prohibited from sharing materials with anyone who has not signed the NDA, and schools that sign the NDA cannot share specific information about their application materials or programs. Partnership agreements fall under a school's NDA, so consultants may work directly with a school's program point of contact.

2. *Final Application and Documentation:*

- The following documentation is required for the Standard AT-CTI application:
 - ATC Course List
 - ATC Course Details
 - Learning Objective Requirements (AT Basics)
 - Testing Blueprint (AT Basics)
- The following documentation is required for the Enhanced AT-CTI application:
 - ATC Course List
 - ATC Course Details
 - Faculty Member Experiences
 - Record Retention Process
 - Learning Objective Requirements (AT Basics, Tower IQ, and/or En Route IQ)
 - Testing Blueprint (AT Basics, Tower IQ, and/or En Route IQ)
 - Scenario Mapping (Tower IQ and/or En Route IQ)
 - Documentation on Institution Letterhead: Student advisement
 - Pre-Endorsement/Endorsement
 - FERPA Document
 - ATC Faculty Briefing and Changes

All requirements must be met prior to FAA approval. Although FAA supplies each AT-CTI school with the AT Basics curriculum, an institution must have courses in place that map to AT Basics learning objectives. Learning objectives may be added to current classes, or a school can create a new class as necessary. FAA AT-CTI Program Managers have noted some larger schools experience roadblocks getting new curricula approved, while smaller schools can move through the process faster.

Faculty must be hired ahead of time or be under contract. They cannot be current FAA employees or at a federal tower.

3. *Virtual Program Evaluations*

- FAA's AT-CTI Program Office reviews documentation virtually including faculty, curricula, and exams.

4. *Interview/Onsite Evaluation*

- For Standard AT-CTI applicants, following the virtual review the AT-CTI Program Office schedules a virtual interview.
- For Enhanced AT-CTI applicants, the AT-CTI Program Office schedules an onsite evaluation (Figure 3.1 is the On-Site Audit Checklist).

5. Memorandum of Understanding (MOU)

- AT-CTI Program Managers send a recommendation to the FAA director to approve or deny the application. Schools receiving FAA approval must sign a MOU to demonstrate:
 - Commitment to the initiative
 - High-level responsibilities for the two parties
 - Each party's obligation to fund their own participation in the Initiative
 - Duration, amendment, and termination of the MOU.

Moving from final application to approval generally takes 4 – 5 months. For a single institution, acceptance is limited to a single campus. If an institution has multiple campuses, they must apply for and receive acceptance for each campus. Schools must notify FAA of any changes to eligibility, instructors, or curriculum.

FAA has requirements for recordkeeping, ensuring student achievement, and student advising:

- Program Evaluations
 - FAA verifies initiative compliance through virtual and onsite program evaluations that review faculty, curricula, and exams and may include a facility tour with classroom audits.
- Student Testing
 - Each institution must have methods to test student mastery of AT Basics learning objectives (documented on the AT-CTI Program Office provided Testing Blueprints document) and Tower IQ, and En Route IQ learning objectives (Enhanced AT-CTI only).
 - Enhanced AT-CTI requires a written evaluation, with a minimum 70% passing score, and performance assessments in the simulator. Institutions must use an FAA-approved evaluator for the assessments. Evaluator requirements are described in the *Enhanced AT-CTI Resource and Participation Guide*. Evaluators must be “former FAA-certified Air Traffic Control Specialists (ATCS) or Department of Defense (DoD) with at least 3 years of experience for each type of environment they are evaluating (Tower and/or En route). They are also required to have FAA/DoD On-the-job Training Instructor (OJTI) experience or FAA Operations Supervisor (OS)/DoD Watch Supervisor experience” (FAA, 2024, p. 19). Evaluators cannot be current FAA or Department of Defense employees. An institution must have an evaluator approved as part of its application.
- Records Retention
 - Institutions must maintain student records and test scores, graduation trends, student performance input, academic readiness trends, and academic achievement trends for a minimum of three years. They may use typical learning platforms (e.g., Blackboard) that are state standards.
- Student Advising
 - Institutions are required to communicate the following information described on p. 13 of the *Enhanced Air Traffic — Collegiate Training Initiative Resource and Participation Guide* to students, preferably before they commit to the program:
 - Initiative requirements for the institution, including the need for the institution's endorsement to the FAA for statutory CTI hiring preference and/or training.
 - The AT Basics curriculum is designed to be a broad-based introduction to aviation and is not specifically job preparation for an FAA ATCS position. The Enhanced AT-CTI is more in-depth and will provide students with the IQ training currently offered at the FAA Academy.
 - Enhanced AT-CTI students are not applicants for an ATCS position with the FAA unless and until they submit a completed application to the FAA in response to a USAJobs Public Notice or vacancy announcement.

- Participation in the Enhanced AT-CTI, even as an endorsed graduate, does not guarantee a USAJobs Public Notice or vacancy announcement will be open, that the FAA will select a student after applying in response to a USAJobs Public Notice or vacancy announcement, or that a student will be employed as an FAA ATCS.
- Qualification requirements for FAA ATCS positions include U.S. citizenship, the pre-employment Air Traffic Skills Assessment (ATSA), maximum entry age, minimum work experience, the ability to speak English clearly enough to be understood over communications equipment, and required pre-employment medical and security screening.
- A person does not have to be an Enhanced AT-CTI graduate to be eligible to apply for an entry-level FAA ATCS position.
- ATCS trainees must be willing to relocate to an FAA facility based on agency staffing needs.
- FAA hiring, selection, placement policies and processes, and training requirements may change with little or no notice.
- FAA ATCS hiring needs and the number and timing of job announcements may change with little or no notice.

3.3 AT-CTI Technology Requirements

While the Standard AT-CTI program does not have a simulation requirement, many institutions with these programs provide students with access to simulators as part of their degree programs. These simulators are generally low-fidelity, which provide students with only a few of the sensory experiences they might encounter in a tower. The Enhanced AT-CTI program requires high-fidelity simulators that meet FAA’s Enhanced AT-CTI Minimum Equipment Requirements (MER). Meeting these requirements ensures simulators can mimic real-world ATC scenarios. Technology requirements differ for Tower and En Route control (Table 3.2).

FAA’s AT-CTI Program Office personnel do not endorse specific educational simulator or commercial vendors. AT-CTI Program Managers recommend that institutions applying to establish an Enhanced AT-CTI program speak with other institutions about their experiences since some vendors provide better customer support than others. Equipment costs vary based on scale (number of students using a system at once) and configuration. Simulators can be a bottleneck since one station can run only three people at time and each session lasts approximately two hours. The FAA requires that simulators always be operational, and institutions must contact FAA if an equipment outage impacts student learning. The FAA suggests that institutions determine how quickly vendors can get a laboratory set up as well as running and maintenance requirements, including downtime.

Each institution must create training simulations that align with the FAA-provided Course Design Guide, although FAA will supply the scripts to develop performance assessment simulations. Developing scenarios takes time — up to six months; one consultant (Precision ATC) is developing out-of-the box scenarios.

Table 3.2 Enhanced AT-CTI Minimum Equipment Requirements (MER)

Tower Requirements	
Hardware Requirements	
•	Monitor size and orientation
	○ Monitors must be combined to display a 180° field of view.
	○ Monitors must be at least 55" diagonal when set horizontally.
	○ Display resolution must be at least 1080P/60Hz.
•	A STARS keyboard or replica must be used.

• STARS display • Flight strips must accurately represent what is used in a live tower environment. • Two-way communication panel
Software Requirements
• Two-way communication software may be separate from the simulation software. • Voice recognition software may be utilized. • Institutions will be able to work with vendors of their choosing. • Academy Airspace must be utilized. • Institutions must create training simulations to align with the information provided in the Course Design Guide. • Institutions will be provided with scripts to develop the performance assessment simulations. • Video and voice recording capability will be required for final performance assessments and made available to the FAA AT-CTI Program Office.
En Route Requirements
Hardware Requirements
• Monitor size: R-Side Monitors must have 43" UHD -OR- BARCO or equivalent. • D-Side Monitors must be at least 24" diagonal. • Keyboard: An ERAM keyboard or replica must be used for both R-side and D-side. • Keypad Selection Device (KSD) • Flight strips must accurately represent what is used in a live en route environment. • Two-way communication panel. • Video and voice recording capability will be required for final exams and made available to the AT-CTI Program Office.
Software Requirements
• Two-way communication software may be separate from the simulation software. • Voice recognition software may be utilized. • Institutions will be able to work with vendors of their choosing. • Academy Airspace must be utilized. • Institutions must create training simulations to align with the information provided in the Course Design Guide. • Institutions will be provided with scripts to develop performance assessment simulations. • Video and voice recording capability will be required for final performance assessments and made available to the FAA AT-CTI Program Office.
Recording Requirements for Performance Assessments
Recording
• Must record the entire trainee experience, including: ○ System interactions by the trainee (keystrokes and mouse/slew ball movements). ○ Strip marking, strip-handling ○ Trainee view of the system ○ Screen capture of TSS or EDST/Main Radar Display simulations ○ Audio interactions by trainees and Remote Pilot Operators (RPOs) ○ Trainee interaction with other trainees ○ Limited environmental conditions during evaluation, such as noise and lighting • A digital camera must have a minimum of 720p and must capture audio.
Synchronized Playback

• All aspects of the recorded evaluation must be synchronized to reproduce the exact conditions of the evaluation, including: ○ Voice recordings of the trainee, RPOs/ remote simulator operators (RSOs) ○ Video recordings of the system screens and trainee actions/interactions.
Storage and Retention Requirement
• Recordings must be stored securely for a minimum of three (3) years. • Standardized naming convention must be used for standardized recall of all recordings

3.4 Simulation Technology Vendors

We obtained simulator specifications and costs from the three vendors approved by the FAA to provide simulation equipment for Enhanced AT-CTI programs:

- Metacraft
- UFA
- Adacel (MaxSim)

Each vendor provided cost estimates based on builds for other schools. Because estimates were marked proprietary and confidential, we do not provide exact numbers below — only ranges. Estimates do not include office furniture (e.g., desks, chairs).

Adacel

Adacel provides high-fidelity simulators to the FAA Academy and over 100 US ATC facilities. Multiple postsecondary institutions have acquired its MaxSim ATC Tower Simulators. System costs range from \$150,000 to over \$300,000, depending on the system configuration (number of displays) and fidelity (4K/HD). Figure 3.1 is the Adacel Tower lab at Middle Georgia State University.



Figure 3.1 Adacel Tower MaxSim Lab at Middle Georgia State University¹²

¹² <https://www.adacel.com/middle-georgia-state-university>

UFA

UFA also works with the FAA, military, and international companies and has supplied its ATTower Simulation System to institutions like SUNY Schenectady Community College (Figure 3.2). The cost for a Basic Tower and ARTCC system with maintenance and support ranges from \$195,000 to \$250,000.



Figure 3.2 UFA: SUNY Schenectady County Community College¹³

Metacraft

Metacraft specializes in lower-cost software for institutions that have limited budgets and works with IT departments at colleges and universities to ensure FAA requirements are met. Its multipurpose laboratories allow schools to modify their configurations (radar lab vs. tower lab) depending on individual class needs. This allows for more flexible pricing. The cost for a single tower lab and software licensing is about \$88,000.

¹³ <https://sunysccc.edu/News/New-Air-Traffic-Control-Simulator-Unveiled.html>

Chapter 4 Kentucky's Post-Secondary Schools AT-CTI Capabilities

4.1 Methodology

In fulfillment of the requirements in Senate Bill 87, KTC researchers and CPE identified institutions in Kentucky with the capacity to support an air traffic control or air traffic safety program and evaluated the feasibility establishing and maintaining an FFA-approved Enhanced AT-CTI program at one of these institutions. For this study, *capacity* is loosely defined as the ability for one or more of Kentucky's post-secondary institutions to accommodate an ATC program. This report is not a true feasibility study because our research team had limited access to pertinent FAA documentation due to strict security protocols around the dissemination of air-traffic control training materials. Data collection consisted of the following:

- Canvassed Kentucky's Postsecondary Institution Presidents
 - In early 2025, Kentucky's CPE asked university presidents if they were interested establishing new ATC programs. A handful showed interest: Eastern Kentucky University, Morehead State University, Kentucky State University, and Jefferson Community and Technical College.
- Engaged the FAA AT-CTI Program Office
 - Researchers interviewed FAA AT-CTI Program Managers to discuss differences between the Standard and Enhanced AT-CTI programs. In addition to providing us with Standard and Enhanced AT-CTI Resource and Participation Guides, Program Managers explained basic eligibility requirements and the application processes and described the purpose of the NDA. Information housed in the Huddle Workspace could not be provided without signing an NDA.

Because KTC is affiliated with the University of Kentucky, which lacks a non-engineering aviation or aeronautical science degree program, our research team did not fit the criteria for an eligible applicant and could not access materials in the Huddle Workspace. At this point, we transitioned to reviewing available FAA materials and looked for materials at schools with established AT-CTI programs.

- Reviewed Federal Documentation on Processes Procedures
 - We examined AT-CTI Resource and Participation Guides and FAA orders and materials related to ATCS hiring processes as well as FAA Academy training requirements.
- Engaged Industry Leaders
 - KTC researchers met with FAA-approved simulation equipment vendors, reviewed equipment options, and obtained cost estimates.
- Mapped Kentucky Postsecondary Institution Offerings to AT-CTI Program Eligibility Requirements.
 - The research team examined CPE's Kentucky Academic Program Inventory for degree offerings in aviation and aeronautical sciences, reviewed course catalogs of Kentucky's public postsecondary education institutions, and followed up with academic coordinators at relevant schools as necessary.
- Reviewed Peer Institution Materials
 - We reviewed publicly available data from institutions with established AT-CTI programs to determine which courses are required. We also reviewed degree requirements, course curricula, course descriptions, learning objectives, enrollment and graduation rates.

- Engaged with Kentucky Postsecondary Institutions
FAA suggested that KTC partner with ECU to access materials in its Enhanced AT-CTI program application, including course mappings. However, staff acknowledged the NDA would remain a hurdle. KTC researchers met with ECU faculty to discuss the initiative, the school's application, and materials (as available outside the scope of the NDA). CPE staff met with Madisonville Community and Technical College's Aviation Program leadership to further discuss interest in the AT-CTI program.

KTC, in consultation with CPE, (1) evaluated the capacity of each Kentucky public postsecondary institution to establish and maintain an Enhanced AT-CTI program, and (2) determined whether schools meet the FAA's Standard and Enhanced AT-CTI program institutional eligibility criteria (see Table 3.1).

KTC and CPE also reviewed active and inactive programs at postsecondary institutions related to aviation, aerospace, and flight/piloting. Results were verified against institution websites and course catalogs. Findings were also mapped against AT-CTI eligibility requirements. Institutions evaluated as part of this study are listed below.

- Eastern Kentucky University
- Kentucky Community and Technical College System
 - Ashland Community and Technical College
 - Big Sandy Community and Technical College
 - Bluegrass Community and Technical College
 - Elizabethtown Community and Technical College
 - Gateway Community and Technical College
 - Hazard Community and Technical College
 - Henderson Community and Technical College
 - Hopkinsville Community and Technical College
 - Jefferson Community and Technical College
 - Madisonville Community and Technical College
 - Maysville Community and Technical College
 - Owensboro Community and Technical College
 - Somerset Community and Technical College
 - Southcentral Community and Technical College
 - Southeast Community and Technical College
 - West Kentucky Community and Technical College
- Kentucky State University
- Morehead State University
- Murray State University
- Northern Kentucky University
- University of Kentucky
- University of Louisville
- Western Kentucky University

KTC researchers developed a checklist (Appendix E) to identify Kentucky postsecondary institutions with AT-CTI program capabilities.

4.2 Results

4.2.1 Institution Type

Each Kentucky public postsecondary educational institution meets the AT-CTI Standard Institution Type eligibility criteria.

4.2.2 Accreditation

Each public postsecondary institution meets the AT-CTI Standard eligibility criteria for accreditation. Every school is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), which is recognized by the Council for Higher Education Accreditation (CHEA). All schools are listed in the Department of Education's Database of Accredited Postsecondary Institutions and Programs.

4.2.3 Degrees

FAA does not clearly define what constitutes a "non-engineering aviation or aeronautical science degree." Most current AT-CTI schools offer associate's degrees specializing in air traffic control or bachelor's degrees in aviation or aeronautical science, aviation administration, or management. Eastern Kentucky University (EKU), which offers a Bachelor of Science (B.S.) in Aviation, is the only school that explicitly meets the requirement to offer at least one non-engineering aviation degree (see below).

Madisonville Community and Technical College offers an Applied Associates of Science (AAS) degree and FAA certificate options in Fixed Wing Flight Training and Helicopter Flight Training. Degrees that offer pilot training do not automatically count toward a non-engineering aviation or aeronautical science degree requirement. KTC researchers examined the course curriculum required for Madisonville's flight training degrees. Coursework is specific to piloting and flight instruction. To qualify, the curriculum would also need to focus on aviation management or air traffic control. However, Madisonville's Aviation Program leadership said the institution does not have the capacity to establish an AT-CTI program.

Jefferson, Maysville, Somerset, and West Kentucky Community and Technical Colleges offer an associate's degree in aviation maintenance technology, which prepares students for FAA-certified aircraft maintenance careers. Aviation maintenance programs do not meet degree or curriculum requirements. To become eligible for the AT-CTI program these colleges would need to create an air traffic control program with new courses.

Engineering Programs

Several schools offer degrees in aerospace engineering:

- Morehead State University, Science in Space Systems Engineering (BA and MA)
- University of Kentucky, Aerospace Engineering (Undergrad Certificate, BA, MA, PhD)
- Murray State University, Engineering Physics - Aerospace Engineering Degree Track
- Western Kentucky University, Aerospace Engineering in coordination with University of Alabama

Aerospace engineering degrees usually focus on the technical and design aspects of aircraft, spacecraft, and flight, not aviation management or air traffic control.

Military

The University of Louisville offers a degree in aerospace science with a minor in aerospace studies through its Air Force ROTC Program. US Army and US Air Force training protocols for ATCSs are unique, however. Following basic

training, Army soldiers receive advanced individual training (AIT) with a 15-week air traffic course at Fort Rucker, Alabama and Airforce airmen attend a 72-day course at Keesler Air Force Base, Mississippi, where they learn the principles and procedures of air traffic control.¹⁴

Eastern Kentucky University

EKU is the only public institution in the state that offers a non-engineering degree in aviation or aeronautical science. Its Bachelor of Science (B.S.) in Aviation has four concentrations: Aerospace Management, Aerospace Technology, Professional Flight Concentration, and Unmanned Aircraft Systems (UAS). EKU's course catalog¹⁵ lists university graduation requirements, major and supporting requirements, core courses for each concentration, and links to course descriptions. The B.S. in Aviation requires 120 credit hours of coursework. Figure 4.1 describes each concentration and lists program requirements.

Located 15 miles from the Central Kentucky Regional Airport (KRG),¹⁶ the university serves as the airport's fixed-based operator (FBO) and uses the airport for flight training (the airport does not currently have a control tower). The flight program has a fleet of 30 aircraft (27 Cessna single engine aircraft and three Piper Seminole multi-engine aircraft)¹⁷ and houses a sophisticated advanced virtual reality flight simulation lab that provides students with an immersive training experience. EKU already participates in the FAA's unmanned aircraft systems (UAS)-CTI program that prepares students for careers in drones.

EKU began the Enhanced AT-CTI Program application process and signed the FAA-provided NDA in February 2025. It is developing new courses that would align with FAA's AT-CTI Basics and IQT learning objectives and has proposed a concentration in Air Traffic Management whose curriculum is mapped to the AT Basic Learning Objectives and the FAA Tower IQ and/or En Route IQ curriculum. EKU will need to create new core courses to meet FAA's learning objectives. EKU's Aviation major already offers all the core and supplemental course requirements for a Standard AT-CTI except a fundamental course in air traffic control. For an Enhanced AT-CTI program the school will need to develop courses that include air traffic control regulations, operations and simulations for each type of control facility (tower, TRACON, and/or en Route). One faculty member in EKU's School of Aviation meets the FAA's credential requirements to teach in the Enhanced AT-CTI program. The school will require additional instructors and support staff (based on anticipated enrollment), to teach courses and maintain a simulation laboratory. The university houses an advanced flight simulation lab but has not purchased equipment required by FAA for the Enhanced AT-CTI Program. University staff are in discussions with FAA-approved vendors about options. The final application will outline testing methods in accordance with FAA standards.

¹⁴ <https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104595/air-traffic-control-1c1x1/#:~:text=Also%2C%20because%20of%20the%20job's,to%20work%20well%20under%20stress.&text=Af-ter%20basic%20training%2C%20Airmen%20assigned,learn%20ATC%20principles%20and%20procedures>

¹⁵ https://catalogs.eku.edu/undergraduate/justice-safety-military-science/aviation/aviation-bs/?_gl=1*1ohg5ni*_gcl_au*MjA1NjY5MzA4MC4xNzYwNzExODM0#programrequirementstext

¹⁶ <https://airport.madisoncountkyky.us>

¹⁷ <https://www.eku.edu/jsms/aviation/>

AVIATION, BACHELOR OF SCIENCE (B.S.)

Aviation, Bachelor of Science with a Concentration in Aerospace Management (B.S.)

The Aerospace Management Concentration prepares students for exciting professional careers in all aspects of the aerospace industry from a management perspective. Many professionally trained personnel are needed to keep the nation's airports, airlines, and other aviation-related organizations and businesses running effectively and efficiently.

Careers with airports, airlines, and fixed base operations (FBO), as well as consulting companies and federal, state, and local agencies, are all possible for graduates of the Aviation Management concentration program. Students will gain important financial, marketing, technical, and business skills needed to successfully manage operations in the aviation industry. The mission of the Aviation Management Concentration is to prepare our students to become the leaders of the next generation of aerospace professionals by developing the knowledge, skills, and attitudes necessary for successful careers in aerospace.

Aviation, Bachelor of Science with a Concentration in Aerospace Technology (B. S.)

The Aerospace Technology (AT) degree is a degree completion concentration. By adding upper-division aerospace management and operation's studies, the bachelor's degree AT concentration is specifically designed to complete a two-year community college degree with a heavy technical aviation course load. Examples of aviation technical degrees include Airframe and Powerplants (A&P), a two-year helicopter and/or airplane pro flight degree, any two-year career technical (CTE) degree partnered with a local flight school, any two-year air traffic control program, and /or any two-year aerospace management program.

Additionally, non-degreed airline pilots with the Airline Transport Pilot (ATP) certificate may complete their Bachelor's degree with this concentration.

Aviation, Bachelor of Science with a Concentration in Professional Flight (B. S.)

Note: VA Regulations for Aviation Courses

Students using GI Bill® benefits to fund an aviation course must complete each course and/or flight lab within one year of initial registration; failure to do so will result in the student being assigned a grade of NC (No Credit). Students using GI Bill® benefits must repay to the VA the cost (including a portion of stipends for living expenses) related to any course in which a grade of NC is earned. All student participants receiving Veterans Administration benefits have 19 calendar weeks from the date of the first flight event to complete an Aviation flight lab.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by

VA is available at the official U.S. government Web site at <http://www.benefits.va.gov/gibill> (<http://www.benefits.va.gov/gibill/>)

Aviation Flight Hours & Costs/Fees

A complete listing of aviation related fees for the current academic year is published on the EKV Aviation Flight Fees website (<http://aviation.eku.edu/aviation-flight-fees> (<http://aviation.eku.edu/aviation-flight-fees/>)), and included in materials provided by the flight instructors.

Additionally, all VA funded flight students receive this information from the EKV and Veteran Affairs during their enrollment certification process. Students should verify through their regional Department of Veterans Affairs processing office if they have questions regarding their eligibility to use VA resources to complete the requirements of the EKV Aviation program.

Aviation, Bachelor of Science with a Concentration in Unmanned Aircraft Systems (B.S.)

Eastern Kentucky University's (EKU) new Unmanned Aircraft Systems (UAS) concentration is the first of its kind in the Commonwealth and one of only a handful in the United States. Students will prepare for thousands of new jobs created in numerous industries as unmanned aircraft systems become a major fixture in the future of aviation across the United States and worldwide. This newest Aerospace concentration includes cutting-edge technology with hands-on courses in operating and flying unmanned aircraft systems, mission planning, safety, and regulations. Additional courses provide opportunities to learn how UASs are integrated into numerous professional fields such as construction, engineering, agriculture, wildlife management, surveying, mapping/modeling, photography, and public safety. Graduates have opportunities to pursue careers in any of these fields as well as federal, state, and local government.

Program Requirements

CIP Code: 49.0101

Major

All aviation courses (AVN prefix) must be completed with a grade of "C" or above.

Code	Title	Hours
University Graduation Requirements		
General Education (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/)		36
<i>Student Success Seminar</i>		
GSD 101	Foundations of Learning	3
Upper division courses (42 hrs. distributed throughout Major/Supporting/Gen Ed/Free Electives categories)		
Major Requirements		
<i>Core Courses</i>		
AVN 150	Introduction to Aviation	3
AVN 250	Air Transportation	3
AVN 315	Aviation Safety Programs	3
AVN 325	Aircraft Systems	3
AVN 329	Aviation Human Factors	3
AVN 335	Weather Reporting/Analysis	3

Figure 4.1 EKV's Aviation Bachelor of Science Course Catalog Program Overview

or GEO 315	Meteorology	
AVN 340	Airport Management I: Operations and Security	3
AVN 370	Aviation Supervision and Leadership	3
AVN 390	Aviation Decision Making	3
AVN 401	Airline Management	3
AVN 402	Corporate and Business Aviation	3
AVN 410	Air Traffic Control	3
AVN 460	Aviation Law	3

Concentrations

Students must select one of the following Concentrations: 21-36

Professional Flight

Aerospace Management

Aerospace Technology

Unmanned Aircraft Systems

Supporting Course RequirementsECO 230 Fundamentals of Microeconomics (Element 5B) ^GMAT 112A Algebra: Polynomials
& MAT 112B and Algebra: Functions & Matrices (Element 2) ^G

MGT 301 Principles of Management (NB) 3

PHY 101 Conceptual Physics (or higher)(Element 4) ^G

TEC 161 Computer Applications in Technology 3

or INF 104 Computer Literacy with Software Applications

Choose from one of the following:

CMS 100 Introduction to Human Communication (Element 1C) ^GCMS 210 Public Speaking (Element 1C) ^G**Free Electives**Choose from 0-15 hours of free electives ¹ 0-15**Total Hours** 120

¹ Note: selecting only lower division courses may result in additional course work being needed to meet the University requirement of 42 hours of upper division credits. Students are referred to Degree Works to check for course pre-requisites and monitor upper division hours.

^G Course also satisfies a General Education element. Supporting hours are included within the 36 hr. General Education requirement above.

Aerospace Management Concentration

Code	Title	Hours
Concentration Courses		
ACC 200	Survey of Accounting	3
AVN 341	Airport Management II: Planning and Administration	3
AVN 360	General Aviation Management	3
BUS 204	Fundamentals of Business Law and Ethics	3
ECO 231	Fundamentals of Macroeconomics	3
HLS 101	Introduction to Homeland Security	3
MKT 301	Principles of Marketing (NB)	3
Total Hours		21

Aerospace Technology Concentration

Code	Title	Hours
Concentration Courses		
AVN 360	General Aviation Management	3

AVN 435	Turbine Aircraft Systems	3
Choose from 25 hours of aviation technical electives		25
Total Hours		31

Professional Flight Concentration

Code	Title	Hours
Concentration Courses		
AVN 161	Private Pilot- Airplane: Ground (Part 61)	4
AVN 161A	Private Pilot- Airplane (Part 61): Flight I	1
AVN 162A	Private Pilot- Airplane (Part 61): Flight II	1
AVN 220	Instrument Pilot: Ground	4
AVN 221A	Instrument Pilot: Flight I	1
AVN 222A	Instrument Pilot: Flight II	1
AVN 280	Glass Cockpit Technology	1
AVN 300	Commercial Pilot: Ground	2
AVN 301A	Commercial Pilot- SEL: Flight I	2
AVN 302A	Commercial Pilot- SEL: Flight II	1
AVN 303A	Commercial Pilot- SEL: Flight III	1
AVN 304A	Commercial Pilot- SEL: Flight IV	2
AVN 305	Multi- Engine Pilot (MEL): Ground	1
AVN 305A	Multi- Engine: Flight	1
AVN 330	Crew Resource Management	3
AVN 415	Instructor Pilot- SEL: Ground	3
AVN 415A	Instructor Pilot- SEL: Flight	1
AVN 425	Applied Aerodynamics	3
AVN 435	Turbine Aircraft Systems	3
Total Hours		36

Unmanned Aircraft Systems Concentration

Code	Title	Hours
Concentration Courses		
AVN 105	UAS Safety and Regulations	3
AVN 107	Introduction to Unmanned Aircraft Systems	3
AVN 290	UAS Flight Operations	3
AVN 312	UAS Commercial Single/Multi En	3
AVN 330	Crew Resource Management	3
AVN 412	Counter UAS Operations	3
AVN 441	Surveying with UAS	3
AVN 442	UAS and Public Safety	3
AVN 443		3
AVN 444	Modeling and Mapping with UAS	3
AVN 445	UAS in Construction and Engineering	3
AVN 446	UAS in Agriculture and Wildlife Management	3
GEO 110	Environmental Geography	
or GEO 210	Introduction to Physical Geography	
Total Hours		36

Figure 4.1 (Continued) EKU's Aviation Bachelor of Science Course Catalog Program Overview

Other Kentucky Programs

Embry-Riddle Aeronautical University—Worldwide, a private post-secondary institution, has a satellite campus in Fort Campbell that offers online degrees in aviation safety (B.S.) and aeronautics (B.S.) and a minor in air traffic management. The air traffic management minor requires 6 courses, listed below, which align with the core program courses offered at Standard AT-CTI schools.

- Introduction to Air Traffic Control
- Aviation Weather
- Tower and Radar for Air Traffic Control and Management
- Air Traffic Management
- Human Factors in ATM
- Airport Management in ATM

Students learn in a classroom but meet with instructors live via Zoom, like the delivery of FAA’s Air Traffic Basics course. The campus would likely qualify for Standard AT-CTI status which allows for virtual delivery of classroom courses like the AT-Basics course. Since courses are virtual and do not offer hands-on simulation training, the school would not qualify for the Enhanced AT-CTI.

Simmons College, a small private institution in Louisville, is partnering with Equus Flight Academy to offer a degree in aviation management (B.S.) that includes coursework in air traffic control. The school is accredited by the Association for Biblical Higher Education Commission but does not meet FAA’s AT-CTI accreditation requirements.

4.3 Current AT-CTI Programs

KTC researchers reviewed publicly available information from the FAA (e.g., FAA Order JO 3120.4S — *Air Traffic Technical Training*) and websites of institutions offering Standard or Enhanced AT-CTI programs. Below we explore program goals and learning outcomes, required coursework and roadmaps, and student achievement examples from select institutions with FAA-approved AT-CTI programs. This information may provide guidance for establishing an Enhanced AT-CTI program in Kentucky.

4.3.1 Program Goals and Learning Outcomes

Program goals and learning outcomes vary in their specificity. Embry-Riddle Aeronautical University has Enhanced AT-CTI programs at its Daytona Beach, Florida, and Prescott, Arizona, campuses and has successfully partnered with FAA for both the TRACON and En Route tower programs. Table 4.1 summarizes program outcomes and assessment methods for the B.S. degree in Air Traffic Management offered at the Daytona Beach campus.

Table 4.1 Program Outcomes and Assessment Methods at Embry-Riddle (Daytona Beach)¹⁸

Program Outcomes	Assessment Methods
Operations pertaining to nonradar separation and procedures.	Airspace map test, performance verification (PV) scenario, midterm exam, and end-of-course survey using specific questions in the university’s course survey.

¹⁸ <https://erau.edu/continuous-improvement/accreditation/program-student-achievement-information/daytona>

Program Outcomes	Assessment Methods
ARTCC operations pertaining to radar and radar associate positions of operation.	Airspace map test, midterm exam, end-of-course survey using specific questions in the university's course survey, and PV scenario.
ATC history, mission, purpose and duty priority	Three block tests covering material presented in that block and end-of-course survey using specific questions in the university's course survey.
Air traffic control tower operations	Two block exams covering material covered in course, online and in-class quizzes, PV scenarios, and end-of-course survey using specific questions in the university's course survey.
Terminal radar operations in a low-volume terminal environment	Airspace test, FAA 7110.65 exam, final comprehensive exam, PV scenario, and end-of-course survey using specific questions in the university's course survey.
Terminal radar operations in a high-volume terminal environment	Two block exams covering terminal radar procedures, online quizzes, in-class quizzes, skill check and PV scenario, and end-of-course survey using specific questions in the university's course survey.
Collaborative air traffic management, overview of CATM, traffic flow management, and advanced air traffic management procedures.	Two block exams covering lecture material, online quizzes, in-class quizzes, capstone project that highlights students understanding of the air traffic management flow systems, and end-of-course survey using specific questions in the university's course survey.

Most program goals are broad, such as those at Metropolitan State University of Denver¹⁹:

- Professional Competency: Graduates will possess the knowledge and expertise required to make a positive impact for their employer and act with the greatest standards of professionalism, as attested by their ethical principles and integrity.
- Regulatory Compliance: Graduates will possess the capability to evaluate the role and significance of regulatory compliance in shaping the operations of global aviation and aerospace commerce.
- Sustainable Aviation and Aerospace Practices: Graduates will be able to apply the understanding that long-term, sustained profitability in the global aviation and aerospace industry derives from the participation of innovative and committed individuals who maximize resource utilization.
- Critical Thinking: Graduates will exhibit the planning, decision-making, workload management, and communication abilities essential for critical thinking.

At Nashua Community College, graduates with a degree in Air Traffic Control²⁰ can:

- Coordinate and regulate the flow of Air Traffic.
- Interpret Flight plans and flight data to manage air traffic patterns.
- Function effectively and efficiently in a team.
- Apply FAA and NTSB regulations and security guidelines appropriately in various aviation and safety settings.

¹⁹ https://catalog.msudenver.edu/preview_program.php?catoid=52&poid=12329&hl=%22air+traffic+control%22&returnto=search

²⁰ <https://nashuacc.edu/program/air-traffic-control-2/>

- Speak and Communicate clearly and decisively using standard industry pilot-controller phraseology.

4.3.2 Coursework and Roadmaps

An associate's degree in air traffic control typically requires approximately 60 hours of coursework; a bachelor's degree requires 120 credit hours (with 36 – 48 credit hours in the core area). Many of the Enhanced AT-CTI schools currently offer both an associate's and bachelor's degree in Air Traffic Management. Appendices F – K present program overviews and curriculum roadmaps from three institutions with Enhanced AT-CTI programs (Embry-Riddle – Daytona, Tulsa Community College, and SUNY Schenectady Community College) and three institutions with Standard AT-CTI programs (Florida Memorial University, Florida State College at Jacksonville, and Metropolitan State University of Denver).

4.3.3 Student Achievement Data

We reviewed enrollment and graduation data from institutions with Standard AT-CTI programs. Because the first Enhanced AT-CTI program cohorts were accepted in 2025, no data on their performance are available. Institutions must develop assessment plans for national accreditation and continued participation in the AT-CTI program. Aviation programs typically earn accreditation from the Aviation Accreditation Board International (AABI). Kent State University's College of Aeronautics and Engineering and Embry-Riddle Aeronautical University's Air Traffic Management programs are both accredited by AABI. Kent State's School of Aeronautics Assessment Plan²¹ and Embry-Riddle's Program-Level Student Achievement Data websites²² publish outcomes and assessment methods along with enrollment and graduation rates.

Program Enrollment and Graduation Data Institution Examples

Tables 4.2 and 4.3 summarize data from Kent State's Air Traffic and Airspace Management program for 2019 – 2024. From 2019 to 2023 the freshman cohort size remained about 11 new students, but that nearly doubled in 2024.

Table 4.2 Kent State University Air Traffic and Airspace Management Student Retention and Graduation Rates²³

Cohort	Freshman Class Size	1st Year Retention Rate	3rd Fall Persistence Rate	4th Persistence Rate	4yr Grad Rate	5yr Grad Rate	6yr Grad Rate
2019	12	85.7%	78.6%	78.6%	64.3%	71.4%	71.4%
2020	12	85.7%	78.6%	78.6%	35.7%	57.1%	57.1%
2021	10	76.9%	76.9%	53.8%	69.2%	69.2%	69.2%
2022	11	78.6%	57.1%	42.9%	7.1%	7.1%	7.1%
2023	11	84.6%	69.2%		7.7%	7.7%	7.7%
2024	21	87.5%					
2025							

²¹ <https://www-s3-live.kent.edu/s3fs-root/s3fs-public/file/KSU%20AABI%20Assessment%20Plan%2010-2025%20-%20AERO.pdf?VersionId=dtpZn07djcsHzVh7TQB0F5vdVP7jOqg%20>

²² <https://erau.edu/continuous-improvement/accreditation/program-student-achievement-information/daytona>

²³ <https://www.kent.edu/aeronautics/air-traffic-and-airspace-management-bs#coursework1>

Table 4.3 Kent State University Air Traffic and Airspace Management Graduate Numbers

2019	2020	2021	2022	2023	2024
15	18	21	11	8	12

Tables 4.4 – 4.6 summarize enrollment and graduation data for the Air Traffic Management degree at Embry-Riddle’s Daytona Beach campus. Although recent graduation data are not available, new enrollments averaged 24 students per year over the 2014 – 2023 period.

Table 4.4 Embry-Riddle (Daytona Beach) Air Traffic Management Program One-Year Retention Rates ²⁴

	Entry Year (Fall)				
	2019	2020	2021	2022	2023
Initial Headcount	35	25	23	20	27
Returned Year 2 (#)	26	21	17	18	23
Returned Year 2 %	74.3%	84.0%	73.9%	90.0%	85.2%

Table 4.5 Embry-Riddle (Daytona Beach) Air Traffic Management Program Six-Year Graduation Rates

	Entry Year (Fall)					
	2014	2015	2016	2017	2018	Total
Initial Headcount #	23	23	32	21	15	114
Graduated #	12	12	27	13	11	75
Graduated %	52.2%	52.2%	84.4%	61.9%	73.3%	

Source: Institutional Research. Based on intended program at entry. Graduation could have been from any ERAU campus or program.

Table 4.6 Embry-Riddle (Daytona Beach) Air Traffic Management Program Graduate Numbers

	Entry Year (Fall)		
	2021-2022	2022-2023	2023-2024
Initial Headcount	26	34	20

Over the past few years AT-ACTI program enrollments have fluctuated, but the number of new students appear to be increasing. For example, Vaughn College of Aeronautics and Technology enrolled 24 new students in its Air Traffic Control Program in 2022. At University of Oklahoma, 44 new students arrived in the Air Traffic Management Program in 2024; this was up from 33 students the previous year.

As Kentucky institutions consider whether to establish air traffic control programs, they should anticipate interest will exceed what has been recorded over the past decade given the FAA’s renewed push to recruit more ATCSs.

²⁴ <https://erau.edu/continuous-improvement/accreditation/program-student-achievement-information/daytona>

4.4 Kentucky State Requirements for New Postsecondary Education Coursework

Institutions interested in developing an ATC program should seek support and guidance from CPE to determine if the addition of the AT-CTI courses are considered a program modification or new program per CPE's New Academic Program Approval Policy.

4.5 Funding

Schools investigating whether to establish an AT-CTI program need to be mindful of the expenses involved in establishing a program:

- Attracting and hiring new faculty and supporting staff
- Funding upfront costs for simulator systems, which range from \$88,000 to \$195,000
 - Institutions should consider acquiring more than one system to prevent usage bottlenecks.
- Continuing equipment maintenance and licensing fees
- Physical laboratory space on campus
- Student scholarships

Institutions may want to explore forming partnerships with businesses and/or governments to fund these costs.

Chapter 5 Recommendations

Eastern Kentucky University is the only public school in the state that has the capacity for an FAA-approved air traffic control program. It will meet all basic institutional eligibility requirements for a Standard AT-CTI program with CPE approval of one or more new courses in air traffic control and management to cover learning objectives of the FAA's Basics for Air Traffic Control course. In early 2025, EKU's School of Aviation submitted to the FAA its initial application to establish an Enhanced AT-CTI program. An internal proposal for establishing this program is advancing through the institution. To achieve full eligibility EKU will need to:

- Consult with CPE to determine whether new coursework to cover FAA's Basics for Air Traffic Control learning curriculum and IQT curriculum constitute a program modification or new program.
- Set up physical space on campus for a dedicated ATC simulation laboratory.
- Purchase MER-compliant simulation technology and build testing scenarios.
- Recruit and hire faculty and staff.
- Establish an FAA-approved evaluator.
- Complete all required documents in FAA's Huddle Workspace.
- Hold an onsite evaluation with FAA.

Moving from the proposal through to the development of an Enhanced AT-CTI program is a lengthy and complex process. Schools that want to establish a program may find it beneficial to partner with a consultant that has experience working through this process and navigating challenges related to the FAA's NDA.

As required by SB 87, CPE should review EKU's application (while complying with FAA NDA requirements) and support with the advancement of new courses and new program development.

5.1 Funding

Any postsecondary educational institution in the state that establishes an air traffic control program prior to July 15, 2026, is eligible to seek funding through the Kentucky Aerospace, Aviation, and Defense Investment Fund (Senate Bill 127), or the AERO Act, to mitigate financial challenges. This is done through a public-private partnership framework where the Kentucky General Assembly matches money granted via the AERO Act by an aviation industry partner. Partnerships can fund:

- Aviation training scholarships that support any license or certification issued by the FAA, a B.S. in aviation issued by a postsecondary education institution, any engineering degree issued by a postsecondary education institution, or a career and technical education license or certification determined by the council, in collaboration with the advisory committee, to be in high demand and relevant to the aerospace industry.
- Aviation equipment grants for a public high school vocational program or postsecondary education institution to maintain, acquire, or lease equipment.

At least 65% of net funds must be reserved to provide aviation training scholarships. Up to 35% of net funds can support equipment grants. The proposal submission period for the AERO Act runs from June 1, 2026, to July 15, 2026. Award notices will be sent August 25, 2026. Once contracts are signed and money is deposited into the fund by the aviation partner, the aviation program will receive the matched funds. If funds are not utilized by June 30, 2030, the program must return the funds. If the Kentucky General Assembly extends the AERO Act beyond the initial round of applications, any school that receives FAA approval for a AT-CTI program could apply.

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Appendix A Senate Bill 87 — Chapter 11, Section 9

➔Section 9. (1) By December 1, 2025, the Council on Postsecondary Education, in coordination with the Kentucky Transportation Cabinet, shall conduct, complete, and submit to the Legislative Research Commission for referral to the appropriate interim joint committee, a study to identify the procedures and resources necessary to establish a program at one or more public postsecondary education institutions that leads to a credential recognized by the Federal Aviation Administration for employment within the field of air traffic control or air traffic safety. The study shall evaluate each public postsecondary education institution's ability to support a program, and identify the institutions with the necessary capacity to support a program. The study shall also evaluate the potential for a Federal Aviation Administration Academy to be established and located at a public postsecondary education institution.

(2) By December 1, 2025, the Council on Postsecondary Education shall notify the president and governing board of any institution identified as having the necessary capacity to support a program of the council's findings and, by January 1, 2026, an identified institution shall submit a request to the council to establish a program at the institution. The council shall provide support and resources requested by the institution to assist in submitting the request and developing the program.

(3) By June 30, 2026, the Council on Postsecondary Education shall approve the request submitted under subsection (2) of this section by a public postsecondary education institution to establish a program.

Signed by Governor March 14, 2025.

Appendix B FAA Basics for Air Traffic Control Information Sheet



Federal Aviation
Administration

Basics for ATC INFORMATION SHEET

FOR NEW-HIRE AIR TRAFFIC CONTROL SPECIALISTS



This Basics for ATC information sheet is provided to you based on your selection under an Air Traffic Control Specialist-Trainee job announcement. While these guidelines apply to you, they may not apply to other employees who were selected under a different hiring initiative.

WHAT YOU NEED TO DO

1

Read this
Information Sheet
Carefully

2

Complete and return attached
Basics for ATC Election Form with
job offer decision letter

1 ABOUT BASICS FOR ATC

What is Basics for Air Traffic Control (ATC)?

The Basics course is blended training for newly hired air traffic control specialists. The course features web-based content, facilitated discussion, and activities delivered by Air Traffic instructors on a web conferencing platform. It covers basic air traffic and aviation topics that are prerequisite to option-specific skill training. Course numbers are 50043002 (TRACON), 50045001 (Tower), and 50147001 (En Route).

Who must take the Basics for ATC course?

Most employees hired into Air Traffic Control Specialist-Trainee positions are required to attend Basics immediately before initial qualification training in the En Route, Terminal Tower, or Terminal Radar tracks. Basics is considered a prerequisite for those courses. Some candidates may qualify to request to voluntarily skip the FAA-provided Basics for ATC course. See Section 2 on the next page for additional information about the Basics for ATC Election.

Are there prerequisites?

There are no prerequisites for the Basics for ATC course.

How long is the training? Where is it held?

It is 19 days and is conducted via a web-based conferencing platform.

Who pays for Basics for ATC training?

The FAA pays for the Basics course. There is no cost to the student. New hires who take the course are on temporary assignment and are paid their salary.

How will employees be scheduled for training?

New hires will be scheduled to take Basics for ATC soon after receiving clearance for hire unless they voluntarily choose to skip the course. See Section 2 on the next page for additional information about the Basics for ATC Election.

How is AT Basics training performance assessed?

Employees who attend Basics must pass an end-of-course examination with a score of 70 percent or better. Those who pass will proceed to option-specific skill training. Those who fail the end-of-course examination will not proceed with option-specific skill training and will no longer be employed by the FAA.

ADDITIONAL INFORMATION

Facility assignment will occur after successful completion of option-specific skill training and will be based, in part, on your class rank during training. Those who take Basics for ATC must pass the course to advance to option-specific skill training.

[The FAA and its Mission](#)

[The Future Air Traffic System](#)

[Air Traffic Controller Career Field](#)

[FAA Academy](#)

FAA Videos and Multimedia

[FAA YouTube Channel](#)

[FAA TV](#)

What is the Basics Election about?

Complete and submit the attached Basics for ATC Election form. Not everyone is eligible to skip Basics. Those who qualify to skip Basics may still choose to take the course anyway. But once you make your choice, it is irrevocable. Please read the remainder of this page carefully.

Who should complete the election form?

We are asking all selectees to let us know their Basics for ATC course attendance decision. Prospective employees who meet certain prior experience and/or education requirements may voluntarily skip the FAA provided Basics course.

An individual may skip Basics for ATC if he/she:

- Has completed courses that cover the Basics for ATC objectives, OR
- Holds, or has previously held, an FAA-recognized Air Traffic Certification. These include the Control Tower Operator certificate and facility certifications and/or ratings at military air traffic control facilities.

Prospective employees who do not meet either of these criteria must take Basics for ATC.

Is the FAA changing the training requirements for certain employees?

No. Knowledge of Basics for ATC course objectives remains a prerequisite for all initial training courses. The Basics attendance decision allows selectees with certain prior training or experience to opt out of the course, but it does not exempt the employee from having to possess the knowledge of what is covered in Basics for ATC.

Can I change my mind on the decision?

No. While your decision is voluntary, it is irrevocable.

Why is the FAA providing this option?

The initial training courses are designed for someone with little or no prior air traffic experience. However, some new hires may have already achieved a level of knowledge that exceeds the materials covered in the Basics for ATC course. For that reason, we are giving these trainees the opportunity to begin immediately training in the option-specific courses.

What are the Basics for ATC objectives?

The Basics course objectives are included as an attachment to this document.

What are FAA-recognized Air Traffic certifications?

These include the Control Tower Operator and facility certifications and/or ratings at military air traffic control facilities such as a control tower, radar approach control, radar final control, or en route center where the primary mission is to separate air traffic and issue safety alerts.

What happens if I note I am eligible and select "I choose to skip" on the Election form?

You are certifying to the FAA that you do not need to attend the Basics course before further training, and that you are solely responsible for knowing

the Basics course objectives. Once you have completed pre-employment processing (medical, security, etc.), we will schedule you directly for Initial Qualification Training based on your track assignment.

What happens if I note I am eligible and select "I do NOT choose to skip" on the Election form?

You are communicating to the FAA that you want to take the Basics for ATC course. Anyone who attends Basics (even if they could opt out) must successfully pass the end-of-course examination in order to advance to Initial Qualification Training.

What happens if I note "I do not qualify to skip" on the Election form?

You are communicating to the FAA that you are not eligible to skip the Basics for ATC course. You will be scheduled for a Basics course prior to Initial Qualification Training, and you must successfully pass the end-of-course examination to remain employed and advance in training.

How will my election be validated?

You must self-certify that you meet either the prior training or prior experience criteria for bypassing Basics for ATC. If you elect to skip the course by signing the form, you are accepting responsibility for knowing the Basics for ATC objectives.

How do I know if I have achieved the Basics for ATC objectives?

Even if you are a prior certified controller or have prior ATC education (i.e., AT-CTI student), it does not mean you fully understand the concepts taught in Basics for ATC. It is your responsibility to determine whether you have learned (and maintained knowledge of) the objectives and have achieved the level of proficiency needed to progress to initial training.

Factors such as your personal learning abilities, instructor capabilities, exposure to aviation, and actual experience impact your level of understanding. A list of Basics objectives is provided to help you better prepare for training.

Will my decision affect my class date?

It is hard to say, because so many factors go into assigning class dates. However, you will be placed into the next appropriate training slot based on when you successfully complete your pre-employment clearances. If you elect to skip the Basics for ATC course, you will be assigned to the next available option-specific course. If you elect not to skip the training, we will assign you to the next available Basics for ATC course that feeds into your option-specific training.

Will my decision affect my starting salary?

No. Whether your FAA training begins with the Basics for ATC course or option-specific training, the FAA will pay the same salary. When you attend courses at the FAA Academy in Oklahoma City, the FAA will also pay per-diem rates.

2 | BASICS FOR ATC ELECTION FORM

Who must complete: All individuals accepting a job offer for the Air Traffic Control Specialist Trainee position.

Instructions: Please read, complete, sign, and return this form as instructed by Human Resources. Please contact your assigned representative at (405) 954-4657 if you have questions regarding this paperwork.

MEMORANDUM FOR AHF-C420 (AVIATION CAREERS)

FROM: _____ (name)

SUBJECT: Basics for Air Traffic Control Course Attendance Decision

I have read the accompanying information regarding the Basics for ATC course (Basics for ATC Information Sheet, Course Objectives). I understand that employees hired as trainees for the entry-level Air Traffic Control Specialist position are generally required to successfully complete the FAA-provided Basics for ATC course as part of their Initial Qualification Training. However, I understand that certain candidates may voluntarily elect to skip this course if they meet at least one of the following criteria:

- A. PRIOR EDUCATION: I have completed courses that cover the Basics for ATC objectives as described in the accompanying information.
- B. PRIOR EXPERIENCE: I hold, or have previously held, an FAA-recognized Air Traffic Certification as described in the accompanying information. These include the Control Tower Operator certificate and facility certifications and/or ratings at military air traffic control facilities.

After reviewing the accompanying information regarding the Basics for ATC course: (check ONE statement below)

☐ I MEET ONE OR BOTH OF THE CRITERIA ABOVE: A ☐ B ☐ (Check one or both, as applicable)
AND I **CHOOSE TO SKIP** THE FAA-PROVIDED BASICS FOR ATC COURSE

I understand that my choice to skip the FAA-provided course is voluntary and irrevocable, and I acknowledge that I am now solely responsible for possessing and demonstrating the content covered in Basics for ATC. I give permission for the FAA to schedule me directly, upon completion of pre-employment processing, for Initial Qualification Training (En Route, Terminal Radar or Tower) based on my track assignment. I understand that the FAA will not review my prior experience or credentials for the purpose of verifying my declaration above regarding my eligibility to skip the Basics for ATC course.

☐ I MEET ONE OR BOTH OF THE CRITERIA ABOVE: A ☐ B ☐ (Check one or both, as applicable)
BUT I **CHOOSE NOT TO SKIP** THE FAA-PROVIDED BASICS FOR ATC COURSE.

I understand that I must successfully complete the FAA-provided course in order to advance to Initial Qualification Training (En Route, Terminal Radar or Tower) based on my track assignment.

☐ I **DO NOT QUALIFY TO SKIP** THE FAA-PROVIDED BASICS FOR ATC COURSE.

I understand that I must successfully complete the FAA-provided course in order to advance to Initial Qualification Training (En Route, Terminal Radar or Tower) based on my track assignment.

DATE

Form developed: June 18, 2014
Updated: January 5, 2022

ATTACHMENT: BASICS FOR ATC OBJECTIVES

Module	Objective
2	Air Traffic Control (ATC) System and National Airspace System (NAS) - Identify the functions and structure of Federal Aviation Administration (FAA) - Identify purpose and responsibilities of the ATC system - Identify types of Air Traffic Control (ATC) facilities - Identify the primary functions and position responsibilities of ATC facilities - Identify purpose and responsibilities of the Traffic Management (TM) system - Identify elements of the National Airspace System (NAS) - Define VFRs and IFRs
4	Airports - Identify areas of an airport - Identify airport markings - Identify airport signs - Identify airport lighting
5	Separation - Identify vertical separation and basic minimum requirements for providing separation - Identify types of nonradar separation and basic minimum requirements for providing separation - Identify radar separation and basic minimum requirements for providing separation - Identify visual separation and basic minimum requirements for providing separation - Identify runway separation and basic minimum requirements for providing separation - Identify basic holding procedures and requirements to perform holding
6	Notices to Airmen (NOTAMs) - Identify methods of disseminating airmen's information - Identify types of Notices to Airmen (NOTAMs) - Describe responsibilities for reporting NOTAMs
7	Air Traffic Control (ATC) Surveillance Sources - Identify uses of primary radar - Identify components of primary radar - Identify uses of secondary radar - Identify components of secondary radar - Identify features of a video map - Identify features of ADS-B
8	Introduction to FAA Orders and Manuals - Identify purpose of FAA orders and Aeronautical Information Manual (AIM) - Identify changes, notices, and supplements - Define terminology used in FAA orders
9	Introduction to Letters of Agreement (LOAs) and Standard Operating Procedures (SOPs) - Define purposes of LOAs and SOPs - Identify content of LOAs and SOPs
10	Principles of Flight - Identify primary and secondary sources of lift - Identify types and parts of airfoils - Identify forces affecting flight, their interrelationships and their effects on aircraft performance - Identify effects of altitude, temperature, and pressure on aircraft performance - Identify functions of primary and secondary flight controls and the movement around the aircraft axes - Identify helicopter aerodynamics and controls - Describe hazards that affect flight
11	Wake Turbulence - 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)
12	Aircraft Characteristics and Recognition - Identify categories of aircraft - Identify weight classes of aircraft - Identify performance characteristics of aircraft - Identify aircraft designators - Identify identification features of aircraft
13	Airspace - Identify classes of airspace and their uses - Identify Special Use Airspace (SUA) as designated in the United States
14	Title 14 Code of Federal Regulations (CFRs) - Define Title 14 Code of Federal Regulations (CFRs) - Define basic terms associated with Title 14 CFRs - Define Title 14 CFRs' general operating and flight rules - Identify requirements for achieving an Air Traffic Control (ATC) certification
15	Title 14 CFR Part 91 - Identify the purpose of a flight plan - Identify rules for filing a flight plan in accordance with Title 14 CFR Part 91 - Identify VFR flight plan requirements - Identify VFR flight plan rules - Identify IFR flight rules - Identify supplemental oxygen requirements per Title 14 CFR Part 91

Module	Objective
16	Basic Navigation - Identify reference lines of the Earth and their purpose - Identify coordinates and measurements used in navigation - Identify methods of conversion for time, speed, and distance - Identify types of speed - Identify effects of altitude and temperature on speed - Identify methods of calculating time, speed, and distance - Identify effects of wind on flight - Identify magnetic variations and deviation - Identify basic navigation methods
17	Radio and Satellite Navigation - Identify types of radio-based NAVAIDS - Identify characteristics of radio-based NAVAIDS - Identify components of radio-based NAVAIDS - Identify components of Instrument Landing System (ILS) - Identify characteristics of ILS - Identify components of Inertial Navigation System (INS) - Identify characteristics of INS - Identify types of satellite-based navigation systems - Identify components of satellite-based navigation systems - Identify characteristics of satellite-based navigation systems - Identify characteristics of airways established for federal airway system - Identify characteristics of routes established for federal airway system
18	Pilot's Environment - Define types and characteristics of pitot-static system - Define operating principles of gyroscopic flight instruments - Define operating principles of navigational instruments - Identify types and characteristics of radio equipment - Identify instrumentation used to manage aircraft flight - Identify alert systems used to prevent airborne collisions - Describe characteristics of physiological factors affecting pilots during flight
19	VFR Charts and Publications - Identify contents and information in a Sectional Aeronautical chart - Identify contents and information in a VFR Terminal Area chart - Identify Chart Supplements
20	En Route IFR Charts - Identify the purpose and contents of En Route Low Altitude charts - Identify the purpose and contents of En Route High Altitude charts - Identify the purpose and contents of IFR Area charts
21	SIDs and STARs - Identify types of departure procedures - Identify types of SIDs - Identify components of SIDs - Identify "No SID" procedures - Identify the purpose of STARs - Identify layout/components of STARs - Identify how to interpret a STAR - Identify "No STAR" procedures
22	Approaches - Define Instrument Approach Procedures (IAPs) - Describe types of IAPs - Identify Instrument Approach Procedure (IAP) Charts - Identify alternate approach procedures
23	Fundamentals of Weather and Aviation Weather Services - Identify characteristics and properties of the Earth's atmosphere - Describe characteristics of atmospheric moisture - Define forms of clouds - Identify air masses and their characteristics - Identify air mass modifications and their characteristics - Identify frontal types and their characteristics - Identify ingredients required to form precipitation - Identify types of precipitation - Identify duties and responsibilities of selected National Weather Service (NWS) offices
24	Hazardous Weather - Define adverse weather conditions that can affect an aircraft - Define adverse wind effects that affect an aircraft - Describe IFR weather hazards during aircraft takeoff and landing - Identify types of turbulence that affect aircraft - Identify causes of aircraft turbulence - Describe effects of high density altitude on aircraft - Identify characteristics of icing - Identify how icing affects an aircraft - Identify hazardous effects of thunderstorms on an aircraft - Identify effects of low-level wind shear (LLWS) on aircraft

ATTACHMENT: BASICS FOR ATC OBJECTIVES

Module	Objective
25	Current Weather (METAR/SPECI) - Identify types of METAR - Identify content of the METAR/SPECI - Identify format of the METAR/SPECI - Decode wind groups recorded on a METAR/SPECI - Decode visibility groups recorded on a METAR/SPECI - Decode runway visual range (RVR) groups recorded on a METAR/SPECI - Decode present weather groups recorded on a METAR/SPECI - Decode sky condition group recorded on a METAR/SPECI - Decode sky condition group phraseology recorded on a METAR/SPECI - Decode temperature/dew point and altimeter groups recorded on a METAR/SPECI - Identify components of remarks as shown on a METAR/SPECI - Identify decoded examples of a METAR/SPECI
26	Forecasts and Advisories - Identify the purpose of a Terminal Aerodrome Forecast (TAF) - Identify elements of a TAF - Decode examples of a TAF - Identify types of In-Flight Advisories - Identify the purpose of a Significant Meteorological Information (SIGMET) - Decode a SIGMET - Identify the purpose of a Convective SIGMET (WST) - Decode a Convective SIGMET (WST) - Identify the purpose of Airmen's Meteorological Information (AIRMET) - Decode an AIRMET - Identify the purpose of a Center Weather Advisory (CWA) - Decode a CWA - Identify the purpose of a Meteorological Impact Statement (MIS) - Decode an MIS - Identify the purpose of a Wind and Temperatures Aloft Forecast (FB) - Decode an FB
27	Pilot Weather Reports (PIREPs) - Identify the purpose and uses of a PIREP - Identify content included in a PIREP - Identify information recorded in a PIREP
28	Introduction to Emergencies - Describe characteristics that constitute an emergency - Identify required information for reporting an emergency - Identify roles and responsibilities of the controller during emergencies - Identify roles and responsibilities of the pilot during emergencies - Identify types of aircraft emergencies

Module	Objective
29	Search and Rescue (SAR) - Identify Search and Rescue (SAR) responsibilities to conduct effective civil SAR missions - Identify procedures for reporting unreported, overdue, or missing aircraft
30	Basic Communications - Identify frequency use for authorized radio and interphone communications - Identify International Civil Aviation Organization (ICAO) phonetics - Identify number group usage during communication - Identify proper number usage during communication - Identify proper facility identification during communication - Identify proper aircraft identification during communication - Identify proper route descriptions during communication - Identify NAVAID descriptions during communication - Identify intra- and interfacility coordination - Identify procedures for conducting a Position Relief Briefing
31	Stripmarking - Identify the purpose and legal requirements of flight progress strips - Identify content requirements of terminal/en route strips - Identify abbreviations and symbols used in flight progress strips
32	Air Traffic Control (ATC) Clearances - Identify the purpose of an ATC clearance - Describe the pilot's responsibility for compliance - Identify use of ATC clearance prefixes - Identify ATC clearance items and their sequence - Identify types of ATC clearances

Appendix C FAA Standard AT-CTI Program Resource and Participation Guide



Federal Aviation Administration

Standard Air Traffic – Collegiate Training Initiative Resource and Participation Guide

March 10, 2025 (Version 1.2)

Revision History

ID	Date	Revised By	Summary of Changes
1.0	May 14, 2024	FAA AT-CTI Program Office	New document
1.1	May 22, 2024	FAA AT-CTI Program Office	Added information regarding initial on-site evaluation and associated editorial changes.
1.2	March 10, 2025	FAA AT-CTI Program Office	Removed section in accordance with Presidential Executive Order

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1 – Introduction

1.1 Purpose of the Standard AT-CTI Resource and Participation Guide

This Resource and Participation Guide provides guidance and information to institutions interested in participating in the Federal Aviation Administration (FAA) Standard Air Traffic – Collegiate Training Initiative (Standard AT-CTI or Initiative) to better prepare qualified applicants to fill Air Traffic Control Specialist (ATCS) positions. This document introduces the Standard AT-CTI eligibility requirements, describes the application and certification process, and provides detailed guidance for institutions. This document also presents annual requirements for participation and provides information on recertification, decertification, and recognition.

1.2 About the Standard AT-CTI

The AT-CTI is a non-funded FAA initiative designed to provide the FAA with qualified applicants possessing a broad-based knowledge of the aviation and air traffic control industry to fill ATC positions. Graduates of the Standard AT-CTI are eligible to bypass the Air Traffic Basics Course (AT Basics) and enter the Academy for Initial Qualification (IQ) training. The Initiative involves a Memorandum of Understanding (MOU) between the FAA and qualified institutions. The FAA AT-CTI Program Office provides the Basics of Air Traffic Control curriculum to the schools or institutions on an annual basis in the form of lesson plans, instructor notes, and behavioral objectives. The institution will incorporate these guidelines into their aviation degree program. The vision of this program is to increase the number of institutions participating and graduates produced while improving the quality, caliber, and performance of the students successfully hired by the FAA.

1.3 Standard AT-CTI's Relationship to Controller Hiring and Training

Personnel hiring, selection, placement, and internal training are outside the scope of the Standard AT-CTI. Affiliation with the Standard AT-CTI, whether as a current student or a program graduate, does not guarantee a student or a graduate will be selected or employed as an FAA ATCS.

The FAA Human Resources Policy Manual (HRPM) Volume 1: Employment EMP-1.37, Air Traffic Control Specialist Hiring, describes the hiring policy. The training policy is described in FAA Order JO 3120.4, Air Traffic Technical Training.

2 – Program Management Structure

2.1 Organizational Structure

The Standard AT-CTI is managed by the FAA AT-CTI Program Office, which resides in the Air Traffic Organization (ATO) Safety and Technical Training Service Unit's Technical Training Directorate (AJI-2). The institution's Standard AT-CTI central program office is the primary point of contact within the institution for the FAA and Standard AT-CTI students to coordinate Standard AT-CTI topics and respond to information requests.

2.2 Roles and Responsibilities

The responsibilities of the FAA are as follows:

- Acts as the FAA's central contact to schools for the Standard AT-CTI.
- Creates and maintains the requirements for continued participation in the Initiative, and related standard operating procedures, work instructions, guidance documents, forms, and libraries.
- Interacts with institutions to establish, maintain, review, and terminate their status as a Standard AT-CTI partner institution, including coordinating reviews of the requirements included in this guide, MOU related documents.
- Provides technical guidance and access to current Standard AT-CTI related documents, including relevant orders, directives, and policies.
- Provides the institution with requirements and oversight.
- Manages the Standard AT-CTI Huddle Site.
- Provides Standard AT-CTI institutions with feedback about their programs.
- Provides timely information on topics of interest through regular communication among participating institutions and the FAA.
- Sets teaching goal standards and provide relevant air traffic control curriculum, including lesson plans, academic testing materials, student handouts, and other materials that cover the learning objectives for the Air Traffic (AT) Basics course.

The responsibilities of a Standard AT-CTI institution are as follows:

- Meets or exceeds all requirements set forth in this Standard AT-CTI Resource and Participation Guide.
- Retains a central program office to coordinate Standard AT-CTI topics with the FAA and respond to FAA information requests or data.
- Retains records as detailed in this Resource and Participation Guide.
- Ensures the curriculum satisfies the teaching and training objectives established by the FAA for the AT Basics.
- Ensures the faculty meets the requirements set forth in this Resource and Participation Guide and are up-to-date and current on FAA policies and procedures. Currency on FAA policies and procedures need to be recorded and retained for oversight from the AT-CTI Program Office.
- Provides counseling to students in all aspects of participation in the Standard AT-CTI.
- Accurately represents the intentions of the Standard AT-CTI in the institution's advertising and other promotional or marketing materials.
- Through outreach and other recruitment programs, strives for a diverse student population enrolled in the institution's aviation and air traffic control program.
- Should the institution change its participation in the Standard AT-CTI, informs the FAA of the status of in-progress students and of relevant teach-out agreements in accordance with this Resource and Participation Guide.
- Any change that affects the status of the Standard AT-CTI institution's participation must be reported in writing to the FAA in accordance with this Resource and Participation Guide.

3 – Requirements for Participation in the Standard AT-CTI

3.1 Basic Eligibility for Institutions to Apply for Participation

To be eligible to apply for participation in the Standard AT-CTI, an institution of higher education must meet all of the following criteria:

- **Institution Type:** Be a degree-granting, not-for-profit, two- or four-year postsecondary educational institution, either public or private.
- **Accreditation:** Have regional or national equivalent institutional accreditation by a U.S. accrediting organization recognized by the Council for Higher Education Accreditation (CHEA) and be listed in the Department of Education's Database of Accredited Postsecondary Institutions and Programs.
- **Degree:** Currently offer at least one non-engineering aviation degree. The FAA considers a degree or certificate viable only if it is active and students graduate with the degree or certificate. The FAA AT-CTI Program Office allows non-engineering aviation accredited degree programs to be considered for application under the FAA Standard AT-CTI. This includes bachelor's degrees, associate's degrees, and undergraduate minors associated with a non-engineering aviation major course of study that meet the abovementioned provisions. The accredited degree program must contain the FAA-required curriculum.
- **Initiative Participation:** Complete the Standard AT-CTI review process and adhere to the Initiative participation requirements outlined in this Resource and Participation Guide and MOU.
- **Faculty:** Have at least one faculty member who was a Certified Professional Controller or has a current pilot's license with an instrument rating. Faculty members must have a minimum average of three years of teaching experience. All faculty instructing students must have a bachelor's degree from an accredited institution. The institution must have a process for review of faculty requirements. Institutions should be aware of the FAA's Ethics Policy Statement on Teaching AT-CTI curriculum that prohibits current FAA employees from teaching AT-CTI curriculum at AT-CTI institutions.
- **Curriculum:** Cover the learning objectives in the FAA AT Basics course, have a method to assess and update the course curriculum, and have a process to verify the effective and efficient presentation of course content. AT Basics objectives must be mapped to the aviation curriculum and clearly show where each objective is taught. Virtual courses are acceptable for the classroom curriculum. Current Academy curriculum will be provided via the shared Huddle Workspace.
- **Testing:** Have a clear method for comprehensively testing their students' mastery of the AT Basics learning objectives. Complete AT Basics Testing Blueprint provided on Huddle.

3.2 Standard AT-CTI Application Process

The Standard AT-CTI application process includes submitting required documents, a virtual curriculum review, and an initial on-site evaluation. Institutions whose applications are approved by the FAA will be asked to sign a Standard AT-CTI MOU. Follow the application process as described in detail on the following website: <https://www.faa.gov/airtraffic/air-traffic-collegiate-training-initiatives-cti>. The following documents, found on the Huddle Workspace, are required to be completed and submitted with the Standard AT-CTI application.

- ATC Course List.
- ATC Course Details.
- Learning Objective Requirements (AT Basics).
- Testing Blueprint (AT Basics).

3.3 Virtual Program Evaluations

Virtual program evaluations of Standard AT-CTI institutions will be required to ensure Initiative compliance. Objectives of the virtual program evaluations are to review faculty, curriculum, and exams in a digital form.

3.4 On-Site Program Evaluations

All visits to Standard AT-CTI institutions, where the primary intent is to discuss Standard AT-CTI matters, will be coordinated between the FAA AT-CTI Program Office and the institution's Standard AT-CTI point of contact a minimum of ten (10) business days of prior notice. The FAA AT-CTI Program Office may perform initial and ad hoc evaluations in addition to virtual evaluations as needed. The objectives of an on-site evaluation include but are not limited to:

- Verify and clarify responses provided in program evaluations.
- Perform classroom audit(s) to ensure curriculum compliance.
- Observe simulators and instruction.
- Tour the facility.
- Verify retention of records.
- Meet and interview faculty, staff, students, and stakeholders.
- Build relationships.

3.5 Student Testing

Standard AT-CTI institutions must have a clear method for comprehensively testing their students' mastery of AT Basics. The FAA AT-CTI Program Office provides a Testing Blueprints document for use by the institution.

3.6 Records Retention

Records pertinent to the completion of the FAA requirements for the Standard AT-CTI degrees will be kept by the institutions. The FAA AT-CTI Program Office has the right to request and view any individual records from the institutions, subject to student privacy rights.

The institution shall:

- a) Coordinate obtaining releases from students allowing the FAA access to student records.
- b) Retain detailed student records to show that all requirements of the training course and testing scores have been met as agreed by the FAA.
- c) Maintain a record of the qualifications and training of instructors.
- d) Keep the records required by 3.6(b) above for a minimum period of three (3) years after completion of the training. The records required by 3.6(c) above shall be retained for a minimum period of three (3) years after the instructor ceases to perform a function for the training organization.
- e) Maintain the following information for future monitoring of the Initiative:
 - Graduate Trends.
 - Student Input on Performance.
 - Academic Readiness Trends.
 - Academic Achievement Trends.

The FAA shall:

- a) Ensure institution applications include all required documents.
- b) Retain signed MOU.
- c) Complete Ad Hoc audit results.

4 – Requirements for Maintaining Standard AT-CTI Status

4.1 Notification of Changes

The institution must contact the FAA as soon as possible for any changes that will impact the institution's ability to meet the basic eligibility as outlined in Section 3.1. Any foreseen change that affects the status of the Standard AT-CTI institution must be reported in writing to the FAA within no less than forty-five (45) calendar days before the effective date of the change, so that both parties may assess the impact on students and the initiative. In the event of unforeseen circumstances (e.g., loss of required instructors, natural disaster, etc.) participating institutions will contact the FAA within three (3) business days. FAA will work with institutions to develop a mitigation strategy on a case-by-case basis. For a list of all required personnel see Section 3.

4.2 Training Changes

The required curriculum will be updated on a routine and non-routine basis. Routine maintenance is scheduled every six (6) months. The FAA AT-CTI Program Office will provide the institutions with the updated courseware, which will include a list of changes. FAA AT-CTI Program Office will provide dates for the institutions when the listed changes become effective. If, in the determination of the FAA AT-CTI Program Office, a major change is to be released, the FAA AT-CTI Program Office will schedule a meeting with the institutions to provide any necessary explanation and answer questions. Institutions will be required to:

- Incorporate required changes to the curriculum by dates provided by the FAA AT-CTI Program Office.
- Brief changes to instructors as needed.
- Submit revised curriculum mapping guides as required.
- Ensure changes are taught to students.

4.3 Location Limitations

An institution's acceptance into the Initiative is limited to a single campus location and department. The department and degree program(s) specified in the application package are not transferable or expandable. An institution that wishes to have an additional campus or department considered must submit a separate application.

4.4 Status

The four categories for the status of an institution's Standard AT-CTI are:

- **Active:** Program is in good standing and considered active.
- **Teach-Out:** Program is transitioning to inactive status. During this period, the program is no longer admitting new students and is completing its commitment to existing students. The FAA maintains communications with the institution.
- **Inactive:** Program is not accepting any students, and no students are waiting to graduate as Standard AT-CTI students. FAA may no longer maintain communications with the institution.

4.5 Loss of Standard AT-CTI Status

If an institution loses Standard AT-CTI status, the institution must wait two (2) years before they can reapply. The following are grounds for losing Standard AT-CTI status, making a program inactive.

- Loss of accreditation.
- Ceasing to offer a non-engineering aviation degree.
- Egregious or multiple violations of the Standard AT-CTI guidelines or FAA policy.
- Actions that reflect negatively on the FAA and the Standard AT-CTI.
- Unable to fulfil requirements of MOU.

4.6 Termination

An institution that wishes to withdraw from the Standard AT-CTI must notify the FAA in writing as soon as possible but no less than forty-five (45) calendar days before the effective date of any change. The FAA will provide the institution with forty-five (45) calendar days' notification before it terminates an MOU with the institution. The primary goals during the transition from an active program to an inactive program are to:

- Verify and address the statuses of in-progress students,
- Document information, and
- Review relevant teach-out agreements.

Students who graduated from a Standard AT-CTI institution and were endorsed while the institution was active in the Initiative retain their "Standard AT-CTI Graduate" designation for hiring and training consideration until they exceed the maximum age requirement. A student who has not yet graduated and did not earn the endorsement is not considered a "Standard AT-CTI Graduate" for hiring or training consideration unless a teach-out or similar agreement addresses the situation.

4.7 Memorandum of Understanding

The FAA maintains a MOU with each institution that describes:

- The commitment to the Initiative,
- High-level responsibilities for the two parties,
- Each party's obligation to fund their own participation in the Initiative, and
- Duration, amendment, and termination of the MOU.

The MOU is signed by the FAA ATO's Director of Technical Training and an authorized representative from the institution.

5 – Requirements for Managing the Standard AT-CTI

5.1 Central Program Office

The institution must establish and maintain a central program office and assign a representative to coordinate Standard AT-CTI topics with the FAA and respond to FAA information or data requests. This office can be the same office that the institution maintains for the Standard AT-CTI. This office is responsible for Standard AT-CTI execution at the institution, manages program records, and coordinates with students on Standard AT-CTI matters. The institution must coordinate all Standard AT-CTI-related inquiries through the FAA AT-CTI Program Office.

5.2 Response Time

The FAA recognizes that the institution representative may hold abnormal duty hours, including instructional time, in a classroom. For routine inquiries and document review, the FAA will provide the institution with ten (10) business days of review time to respond. The FAA will provide the institution three (3) business days of review time to respond to urgent inquiries and reviews. When the institution submits an inquiry to the FAA, the FAA will make every effort to respond within three (3) business days. If more time is required, the FAA will inform the institution and keep the institution updated on the request.

5.3 Requirement to Advise Students

The institution must counsel prospective and current students about all aspects of the Standard AT-CTI and make every effort to represent the intentions of the Standard AT-CTI accurately. Before the end of a student's first semester in the Standard AT-CTI, but preferably before the student commits to the Standard AT-CTI, the institution must communicate the following information to Standard AT-CTI students:

- Initiative requirements for the institution, including the need for the institution's endorsement to the FAA for statutory AT-CTI hiring preference and/or training. See Section 5.4 (below) for additional details.
- The AT Basics curriculum is designed to be a broad-based introduction to aviation and is not specifically job preparation for an FAA ATCS position.
- Participation in the Standard AT-CTI, even as an endorsed graduate, does not guarantee a student will be selected or employed as an FAA ATCS.
- Qualification requirements for FAA ATCS positions include U.S. citizenship, the pre-employment Air Traffic Skills Assessment (ATSA), maximum entry age, minimum work experience, the ability to speak English clearly enough to be understood over communications equipment and required pre-employment medical and security screening.
- Successful completion and passing results on the ATSA are required but does not guarantee placement.
- A person does not have to be a Standard AT-CTI graduate to be eligible to apply for an entry -level FAA ATCS position.
- ATCS trainees must be willing to relocate to an FAA facility based on agency staffing needs.
- FAA hiring, selection, placement policies and processes, and training requirements may change with little or no notice.
- FAA ATCS hiring needs and the number and timing of job announcements may change with little or no notice.
- Advisement of these topics must be recorded with a school supplied form including a dated student signature. This form must be retained with student records.

5.4 Institution Official Endorsement

The Standard AT-CTI institution's endorsing officials determine whether a student has met the minimum requirements to receive an endorsement. To receive a Standard AT-CTI Endorsement, the student must satisfy the following criteria:

- Completed air traffic controller training, as demonstrated by passing the courses that are mapped to the AT Basics learning objectives.
- Been awarded the appropriate degree, as demonstrated by the date listed on the transcript and diploma.

5.5 Promotion of the Standard AT-CTI

The FAA maintains an AT-CTI website at [Collegiate Training Initiative \(CTI\) Schools | Federal Aviation Administration \(faa.gov\)](#). The website provides Initiative information, including a list of approved institutions, the location of the institutions, a link to the institution's website (if available), and a point of contact. The institution is responsible for promoting its Standard AT-CTI status and accurately representing the intentions of the Initiative in the institution's advertising and other promotional materials (in accordance with relevant institution policies).

5.6 Huddle Workspace

The Huddle Workspace is the online collaboration site and the official document library for the Initiative. The site provides internal FAA AT-CTI Program Office and external institution representatives with restricted worksites for document storage and collaboration. It also provides non-restricted work areas to allow cross-functional coordination and information-sharing. Documents such as this Resource and Participation Guide, the course materials, and other reference information are accessible through Huddle. Documents are considered uncontrolled when downloaded. Access to the documents is provided by the FAA AT-CTI Program Office.

Appendix D FAA Enhanced AT-CTI Program Resource and Participation Guide



Federal Aviation Administration

Enhanced Air Traffic – Collegiate Training Initiative Resource and Participation Guide

March 1, 2024 (Version 2.0)

Revision History

ID	Date	Revised By	Summary of Changes
1.0	April 1, 2024	FAA AT-CTI Program Office	New document
1.1	May 28, 2024	FAA AT-CTI Program Office	Removed ASD-X from MER
2.0	March 6, 2025	FAA AT-CTI Program Office	Clarification and timing guidelines on final Performance Assessment. Hiring and ATSA information. Faculty teaching and evaluator requirements.

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1 – Introduction

1.1 Purpose of the Enhanced AT-CTI Resource and Participation Guide

This Resource and Participation Guide provides guidance and information to institutions interested in participating in the Federal Aviation Administration (FAA) Enhanced Air Traffic – Collegiate Training Initiative (Enhanced AT-CTI or Initiative) to prepare qualified applicants to fill Air Traffic Control Specialist (ATCS) positions. This document introduces the Enhanced AT-CTI eligibility requirements, describes the application and certification process, and provides detailed guidance for institutions. This document also presents annual requirements for participation and provides information on recertification, decertification, and recognition.

1.2 About the Enhanced AT-CTI

The Initiative is a non-funded collaboration between selected institutions and the FAA. All AT-CTI degrees or certificates are located in each college's aviation or aeronautical science division. The Enhanced AT-CTI was created to provide equivalency of FAA Academy air traffic control training at qualified and participating institutions to expand options for ATCS training. The Enhanced AT-CTI, with the proper FAA oversight, will allow graduates with an Enhanced AT-CTI Endorsement to proceed directly to a facility if they are hired as ATCS trainees.

1.3 Enhanced AT-CTI's Relationship to Controller Hiring and Training

Personnel hiring, selection, placement, and internal training are outside the scope of the Enhanced AT-CTI. Affiliation with the Enhanced AT-CTI, whether as a current student or a program graduate, does not guarantee a student or a graduate will be selected or employed as an FAA ATCS.

The FAA Human Resources Policy Manual (HRPM) Volume 1: Employment EMP-1.37, Air Traffic Control Specialist Hiring, describes the hiring policy. The training policy is described in FAA Order JO 3120.4, Air Traffic Technical Training.

1.4 Hiring Process for Students

Students enrolled in an Enhanced AT-CTI school can take the Air Traffic Skills Assessment (ATSA) one (1) time per year. Students are encouraged to take the ATSA once accepted into their institution's program.

- Institution AT-CTI Point of Contact (POC) schedules students for ATSA via a Smartsheet link
 - <https://app.smartsheetgov.com/b/form/1b8c3d14fe854cadb5d8524c316c8abe>.
- The student will receive a direct invitation for the ATSA testing, where they pick the location and date.
 - The school or student pays for the ATSA administrative fee.
- The FAA AT-CTI Program office will forward the results to the Institution's AT-CTI POC.

As a courtesy, students are permitted to take the ATSA before starting the application process. Up to 12 months before the expected completion of the program, students may apply to a USAJobs Public Notice or vacancy announcement. The application process does not begin until a graduate applies in response to a USAJobs Public Notice or vacancy announcement.

- The FAA will issue the applicant a Tentative Offer Letter (TOL) if the applicant meets the requirements, qualifications, and eligibilities.
- After issuance of a TOL, the FAA will require (and will work on scheduling directly with the TOL recipients) their Medical Exam & Minnesota Multiphasic Personality Inventory (MMPI), Drug Test Screening, and Security Check.
- Once a TOL recipient passes their Performance Assessments, submits an Endorsement, and upon successful validation of all pre-employment requirements, the FAA will issue the TOL recipient a Firm Offer Letter (FOL).
- The FAA will assign the FOL recipients to their FAA Facility based on FAA needs.

2 – Program Management Structure

2.1 Organizational Structure

The Enhanced AT-CTI is managed by the FAA AT-CTI Program Office, which resides in the Air Traffic Organization (ATO) Safety and Technical Training Service Unit's Technical Training Directorate (AJI-2). The institution's Enhanced AT-CTI central program office is the primary point of contact for the FAA and Enhanced AT-CTI students to coordinate Enhanced AT-CTI topics and respond to information requests. The FAA AT-CTI Program Office collaborates with the FAA Air Traffic Safety Oversight Service (AOV) to ensure institutions follow the requirements for providing FAA-approved evaluators for students' final assessments.

2.2 Roles and Responsibilities

The responsibilities of the FAA are:

- Establishes the FAA AT-CTI Program Office as the FAA's central contact to schools for the Enhanced AT-CTI.
- Creates and maintains the requirements for continued participation in the initiative and related standard operating procedures, work instructions, guidance documents, forms, and libraries.
- Interacts with institutions to establish, maintain, review, and terminate their status as an Enhanced AT-CTI partner institution, including coordinating reviews of the requirements in Memorandums of Understanding (MOU) and related documents.
- Provides technical guidance and access to current Enhanced AT-CTI related documents, including relevant orders, directives, and policies.
- Provides the institution with requirements and oversight.
- Manages the Enhanced AT-CTI Huddle Site.
- Provides Enhanced AT-CTI institutions with feedback about their programs.
- Provides timely information on topics of interest through regular communication among participating institutions and the FAA.
- Sets teaching goal standards and provides relevant air traffic control curriculum, including lesson plans, academic testing materials, student handouts, and other materials that cover the learning objectives for the Air Traffic (AT) Basics course, Tower IQ course and En Route IQ course.
- Ensures evaluator applications meet FAA AT-CTI Program Office requirements.
- Certifies FAA-approved evaluators.
- Conducts oversight activities on the performance of FAA-approved evaluators, including reviewing recordings of final assessments, reviewing records, monitoring and tracking an evaluator's compliance with requirements, and direct observation.
- Tracks and recertifies FAA-approved evaluators annually.

The responsibilities of an Enhanced AT-CTI institution are as follows:

- Meets or exceeds all requirements set forth in the Enhanced AT-CTI Resource and Participation Guide.
- Retains a central program office to coordinate Enhanced AT-CTI topics with the FAA and respond to FAA information requests or data.
- Schedules ATSA testing with the FAA AT-CTI Program Office.
- Submits an application to 9-AVS-AWA-AOV-ECTI@faa.gov for evaluator approval and appointment (see Appendix C, Evaluator Requirements) and provides an FAA-approved evaluator for final assessment.
- Retains records as detailed in the Resource and Participation Guide.
- Ensures the curriculum satisfies the teaching and training objectives established by the FAA for the AT Basics, Tower IQ, and En Route IQ courses.
- Ensures the faculty meets the requirements set forth in the Resource and Participation Guide and is up-to-date and current on FAA policies and procedures. Currency on FAA policies and

procedures needs to be recorded and retained for oversight from the FAA AT-CTI Program Office.

- Provides counseling to students in all aspects of participation in the Enhanced AT-CTI.
- Accurately represents the intentions of the Enhanced AT-CTI in the institution's advertising and other promotional or marketing materials.
- Maintains the confidentiality of any confidential materials shared by the FAA with the institution
- Should the institution change its participation in the Enhanced AT-CTI, it will inform the FAA of the status of in-progress students and relevant teach-out agreements in accordance with the Resource and Participation Guide.
- Any change affecting the status of the Enhanced AT-CTI Institution's participation must be reported in writing to the FAA per the Resource and Participation Guide.

3 – Requirements for Participation in the Enhanced AT-CTI

3.1 Basic Eligibility for Institutions to Apply for Participation

To be eligible to apply for participation in the Enhanced AT-CTI, an institution of higher education must meet all of the following criteria:

- **Institution Type:** Be a degree-granting, not-for-profit, two- or four-year postsecondary educational institution, either public or private.
- **Accreditation:** Have regional or national equivalent institutional accreditation by a U.S. accrediting organization recognized by the Council for Higher Education Accreditation (CHEA) and be listed in the Department of Education's Database of Accredited Postsecondary Institutions and Programs.
- **Degree:** Currently offer at least one non-engineering aviation degree. The FAA considers a degree or certificate viable only if it is active and students graduate with the degree or certificate. The FAA AT-CTI Program Office allows non-engineering aviation accredited degree programs to be considered for application under the FAA Enhanced AT-CTI. This degree can include master's, bachelor's, associate's degrees, one-year certificate programs, and undergraduate minors associated with a non-engineering aviation major course of study that meets the abovementioned provisions. The accredited degree program must contain the FAA-required curriculum.
- **Initiative Participation:** Complete the Enhanced AT-CTI review process and adhere to the initiative participation requirements outlined in the Resource and Participation Guide.
- **Faculty:** Faculty members who teach the IQ Academy curriculum and simulation must have a minimum of three (3) years of fully credentialed experience as one of the following: FAA Certified Air Traffic Control Specialist (ATCS), military controllers with FAA credentials, International Civil Aviation Organization (ICAO) air traffic controllers, and/or Control Tower Operator (CTO) controllers. Faculty must have at least two (2) years of CPC, or equivalent, of the specialty they teach. The institution must have a process for review of faculty requirements. The FAA prohibits current FAA employees from teaching Enhanced AT-CTI curriculum at (any) institutions.

Note: AT Basics curriculum may be taught by an experienced air traffic controller as listed above or a faculty member with a minimum of three (3) years of teaching experience and a bachelor's degree from an accredited institution. Faculty requirements will be audited in accordance with Appendix B, Auditing Checklist.

- **Curriculum:** Cover the learning objectives in the FAA AT Basics and Tower and/or En Route IQ course, have a method to assess and update the course curriculum, and have a process to verify the effective and efficient presentation of course content. AT Basics, Tower IQ, and En route IQ objectives must be mapped to the aviation curriculum and clearly show where each objective is taught. Virtual courses are acceptable for the classroom curriculum. Simulations will not be conducted virtually. The current Academy curriculum will be provided via the shared Huddle Workspace.
- **Non-disclosure agreements (NDA)** will be signed between the institutions and the FAA to ensure the sanctity and security of the curriculum and evaluations.
- **Technology:** Operate and maintain minimum requirements detailed in Appendix A, Enhanced AT-CTI Minimum Equipment Requirements (MER).
- **Testing:** Have a clear method for comprehensively testing their students' mastery of the AT Basics learning objectives. For IQ training, follow the guidance listed in the Resource and Participation Guide.

- **Application Process:** Follow the application process described in detail on the following website: <https://app.smartsheetgov.com/b/form/fecf6f8f3e9142bfab28d98e0f0f03b9>.

3.2 Enhanced AT-CTI Application Process for Institutions

The Enhanced AT-CTI application process includes submitting required documents, a virtual curriculum review, and participating in an on-site evaluation conducted by the FAA AT-CTI Program Office. See Appendix C for evaluation requirements. Institutions whose applications are approved by the FAA will be asked to sign an Enhanced AT-CTI MOU. See Appendix D for a reference copy of the MOU. The following documents, found on the Huddle Workspace, must be completed and submitted with the Enhanced AT-CTI application.

- ATC Course List.
- ATC Course Details.
- Faculty Member Experiences.
- Record Retention Process
- Learning Objective Requirements (AT Basics, Tower IQ, and/or En Route IQ).
- Testing Blueprint (AT Basics, Tower IQ, and/or En Route IQ).
- Scenario Mapping (Tower IQ and/or En Route IQ).
- Documentation on Institution Letterhead:
 - Student advisement
 - Pre-Endorsement/Endorsement
 - FERPA Document
 - ATC Faculty Briefing and Changes

3.3 Virtual Program Evaluations

Virtual program evaluations of Enhanced AT-CTI institutions will be required to ensure initiative compliance. The objectives of the virtual program evaluations are to review faculty, curriculum, and exams in a digital form.

3.4 Annual and Ad Hoc On-Site Program Evaluations

All visits to Enhanced AT-CTI Institutions, where the primary intent is to discuss Enhanced AT-CTI matters, will be coordinated between the FAA AT-CTI Program Office and the institution's Enhanced AT-CTI point of contact with ten (10) business days of prior notice. The FAA AT-CTI Program Office will perform ad hoc evaluations as needed in addition to the annual evaluation. The objectives of the annual/ad hoc on-site evaluation include but are not limited to:

- Verify and clarify responses provided in program evaluations.
- Ensure curriculum, simulation scenario, and recording compliance.
- Tour the facility.
- Verify retention of records.
- Meet with faculty, staff, and stakeholders.
- Build relationships.

3.5 Student Testing

Enhanced AT-CTI Institutions must have a clear method for comprehensively testing their students' mastery of the AT Basics, applicable Tower IQ, and En Route IQ learning objectives. See the Testing Blueprints document. There are two final forms of evaluation: written and simulator performance assessment.

- 1) **Written:** A final written evaluation will be required from the institution for Tower and/or En Route programs with a minimum score of 70% to pass. The institution will develop these written evaluations, and the FAA AT-CTI Program Office will approve them before evaluation.
- 2) **Performance Assessment:**

En Route: Enhanced ATCTI students will be required to take three (3) performance assessments within a 48-hour period with a minimum average score of 70% to pass. These performance assessments will be run on the Radar Associate side.

Tower: Enhanced AT-CTI students will be required to take four (4) performance assessments within a 72-hour timeframe with an average minimum score of 70% to pass. These four (4) performance assessments will include two (2) Local performance assessments and two (2) Ground performance assessments. The weighted value of the performance assessments is 33.5% for each of the two (2) Local performance assessments, and 16.5% for each of the two (2) Ground performance assessments.

The Institution's FAA-approved evaluator will request approval from the FAA (see Appendix C) for each final performance assessment no less than ten (10) business days prior. Final performance assessments will be voice and radar playback recorded by the institution and provided to the FAA AT-CTI Program Office upon request (See Appendix A for recording and retention requirements). Institutions will be provided evaluation scenario scripts for building their final performance assessments. These scenarios are confidential and will not be used without an FAA-approved evaluator present.

Note: If a student fails to obtain a 70% passing grade average on the final performance assessments, the student will not be eligible for the Enhanced AT-CTI Endorsement but may be eligible for Standard AT-CTI endorsement with successful completion of AT Basics. Students who have previously failed the FAA Academy are eligible for the Enhanced AT-CTI Certificate but will not be allowed a second attempt at the FAA Academy if they fail to pass the Performance Assessment (New Hire ATC Selection Policies do not allow for second chances at the FAA Academy).

3.6 Final Performance Assessment Planning

The institution must coordinate with an FAA-approved evaluator to conduct final performance assessments. The final performance assessment must be taken in the student's final semester to align with the hiring process. Students must take only the Tower **-or-** En-route Final Performance Assessment. The institution maintains recordings of final performance assessments in accordance with Appendix A. See the FAA-approved evaluator handbook for detailed guidance.

3.7 Records Retention

The institutions will keep records pertinent to the completion of the FAA requirements for the Enhanced AT-CTI degrees. The FAA AT-CTI Program Office has the right to request and view any individual records from the institutions, subject to student privacy rights.

The institution shall:

- a) Coordinate obtaining releases from students, allowing the FAA access to student records.
- b) Retain detailed student records to show that all training course requirements and testing scores have been met as agreed by the FAA.
- c) Where appropriate, maintain a system for recording the qualifications and training of instructors and FAA-approved evaluators.
- d) Keep the records required by 3.7(b) above for a minimum period of three (3) years after completion of the training. The records required by 3.7(c) above shall be retained for three (3) years after the instructor or FAA-approved evaluator ceases to perform a function for the training organization.
- e) Maintain the following information for future monitoring of the Initiative:
 - Graduate Trends.
 - Student Input on Performance.
 - Academic Readiness Trends.
 - Academic Achievement Trends.

The FAA shall:

- a) Ensure institution applications include all required documents.

- b) Retain signed MOU.
- c) Provide the institution with evaluation material.
- d) Complete Annual and Ad Hoc audit results.
- e) Maintain and file performance assessment documentation.
- f) Maintain records of FAA-approved evaluators.
- g) Maintain students' written evaluation and performance assessment final grades.

Note: If a student does not consent to the FAA receiving access to student records relating to the Enhanced AT-CTI, then the student cannot receive an Enhanced AT-CTI Endorsement.

4 – Requirements for Maintaining Enhanced AT-CTI Status

4.1 Notification of Changes

The institution must contact the FAA as soon as possible for any changes that will impact the institution's ability to meet the basic eligibility outlined in Section 3.1 and Appendix B. Any foreseen change that affects the status of the Enhanced AT-CTI institution must be reported in writing to the FAA within no less than forty-five (45) calendar days before the effective date of the change so that both parties may assess the impact on students and the initiative. In the event of unforeseen circumstances (e.g., loss of simulation capabilities, loss of required instructors, natural disaster, etc.), participating institutions will contact the FAA within three (3) business days. FAA will work with institutions to develop a mitigation strategy on a case-by-case basis. For all required personnel and equipment, see Section 3 and Appendix A.

4.2 Training Changes

The required curriculum will be updated on a routine and non-routine basis. Routine maintenance is scheduled every six (6) months. The FAA AT-CTI Program Office will provide the institutions with the updated courseware, including a list of changes. FAA AT-CTI Program Office will provide dates for the institutions when the listed changes will become effective. If, in the determination of the FAA AT-CTI Program Office, a major change is to be released, the FAA AT-CTI Program Office will schedule a meeting with the institutions to provide any necessary explanation and answer questions. Institutions will be required to:

- Incorporate required changes to the curriculum by dates provided by the FAA AT-CTI Program Office.
- Brief changes to instructors and FAA-approved elevators as needed
- Update equipment as required.
- Submit revised curriculum mapping guides as required.
- Ensure changes are taught to students.

4.3 Location Limitations

An institution's acceptance into the initiative is limited to a single campus location and department. The department and degree program(s) specified in the application package are not transferable or expandable. An institution that wishes to have an additional campus or department considered must submit a separate application.

4.4 Status

The four categories for the status of an institution's Enhanced AT-CTI program are:

- **Active:** The program is in good standing and considered active.
- **Teach-Out:** The program is transitioning to inactive status. During this period, the program is no longer admitting new students and is completing its commitment to existing students. The FAA maintains communications with the institution.
- **Transition to Standard:** The program no longer meets the requirements for Enhanced AT-CTI and has decided only to provide the AT Basics curriculum.
- **Inactive:** The program is not accepting any students, and no students are waiting to graduate as Enhanced or Standard AT-CTI students. FAA may no longer maintain communications with the institution.

4.5 Loss of Enhanced AT-CTI Status

If an institution loses Enhanced AT-CTI status, it must wait two (2) years before reapplying. Institutions that lose the Enhanced AT-CTI status may be eligible to obtain or retain Standard AT-CTI status. The following are grounds for losing Enhanced AT-CTI status, making a program inactive.

- Loss of accreditation.
- Ceasing to offer a non-engineering aviation degree

- Egregious or multiple violations of the Enhanced AT-CTI guidelines or FAA policy.
- Actions that reflect negatively on the FAA and the Enhanced AT-CTI.
- Unable to fulfill requirements of MOU.

4.6 Termination

An institution that wishes to withdraw from the Enhanced AT-CTI must notify the FAA in writing as soon as possible but no less than forty-five (45) calendar days before the effective date of any change. The FAA will provide the institution with forty-five (45) calendar days' notification before it terminates an MOU with the institution. The primary goals during the transition from an active program to an inactive program are to:

- Verify and address the statuses of in-progress students,
- Document information
- Review relevant teach-out agreements.

Students who graduated from an Enhanced AT-CTI institution and were endorsed while the institution was active in the Initiative retain their "Enhanced AT-CTI Graduate" designation for hiring and training consideration until they exceed the maximum age requirement. A student who has not yet graduated and did not earn the endorsement is not considered an "Enhanced AT-CTI Graduate" unless a teach-out or similar agreement addresses the situation.

4.7 Waivers

Waivers will be considered on a case-by-case basis by the FAA AT-CTI Program Office for minor temporary changes to the agreed-upon policies that do not impact safety. Waivers will be considered for the following issues:

- 1) Temporary changes in location;
- 2) Minor unforeseen circumstances outlined in Section 4.1; and
- 3) Items deemed necessary by the FAA AT-CTI Program Office. On-site evaluations may be required.

To be eligible for the Enhanced AT-CTI Endorsement, current students must meet the Enhanced AT-CTI Resource and Participation Guide requirements. The institutions may create a capstone course(s) to meet any potential unfulfilled requirements that were not properly addressed throughout the student's coursework at the institution with the oversight and written approval of the FAA AT-CTI Program Office. The written evaluation and performance assessments will still be required. This capstone waiver will be accomplished with collaboration between the institution and the FAA AT-CTI Program Office on a case-by-case basis.

4.8 Memorandum of Understanding

The FAA maintains an MOU with each institution that describes:

- The commitment to the Initiative,
- High-level responsibilities for the two parties,
- Each party's obligation to fund their participation in the Initiative, and
- Duration, amendment, and termination of the MOU

The MOU is signed by the FAA ATO's Director of Technical Training and an authorized representative from the institution. It is renewed annually. See Appendix D for a reference copy of the MOU.

5 – Requirements for Managing the Enhanced AT-CTI

5.1 Central Program Office

The institution must establish and maintain a central program office and assign a representative to coordinate Enhanced AT-CTI topics with the FAA and respond to FAA information or data requests. This office can be the same office that the institution maintains for the Standard AT-CTI. This office is responsible for Enhanced AT-CTI execution at the institution, manages program records, and coordinates with students on Enhanced AT-CTI matters. The institution must coordinate all Enhanced AT-CTI-related inquiries through the FAA AT-CTI Program Office.

5.2 Response Time

The FAA recognizes that the institution representative may hold abnormal duty hours, including instructional time, in a classroom. For routine inquiries and document review, the FAA will provide the institution with ten (10) business days of review time to respond. The FAA will provide the institution with three (3) business days of review time to respond to urgent inquiries and reviews. When the institution submits an inquiry to the FAA, the FAA will make every effort to respond within three (3) business days. If more time is required, the FAA will inform the institution and keep the institution updated on the request.

5.3 Requirement to Advise Students

The institution must counsel prospective and current students about all aspects of the Enhanced AT-CTI and make every effort to represent the intentions of the Enhanced AT-CTI accurately. Before the end of a student's first semester in the Enhanced AT-CTI, but preferably before the student commits to the Enhanced AT-CTI, the institution must communicate the following information to Enhanced AT-CTI students:

- Initiative requirements for the institution, including the need for the institution's endorsement to the FAA for statutory CTI hiring preference and/or training. See Section 5.4 (below) for additional details.
- The AT Basics curriculum is designed to be a broad-based introduction to aviation and is not specifically job preparation for an FAA ATCS position. The Enhanced AT-CTI is more in-depth and will provide students with the IQ training currently offered at the FAA Academy.
- Enhanced AT-CTI students are not applicants for an ATCS position with the FAA unless and until they submit a completed application to the FAA in response to a USAJobs Public Notice or vacancy announcement.
- Participation in the Enhanced AT-CTI, even as an endorsed graduate, does not guarantee a USAJobs Public Notice or vacancy announcement will be open, that the FAA will select a student after applying in response to a USAJobs Public Notice or vacancy announcement, or that a student will be employed as an FAA ATCS.
- Qualification requirements for FAA ATCS positions include U.S. citizenship, the pre-employment Air Traffic Skills Assessment (ATSA), maximum entry age, minimum work experience, the ability to speak English clearly enough to be understood over communications equipment, and required pre-employment medical and security screening.
- A person does not have to be an Enhanced AT-CTI graduate to be eligible to apply for an entry-level FAA ATCS position.
- ATCS trainees must be willing to relocate to an FAA facility based on agency staffing needs.
- FAA hiring, selection, placement policies and processes, and training requirements may change with little or no notice.
- FAA ATCS hiring needs and the number and timing of job announcements may change with little or no notice.
- Advisement on these topics must be recorded with a school-supplied form, including a dated student signature. This form must be retained with student records.

5.4 Institution Official Endorsement

The Enhanced AT-CTI Institution's endorsing officials determine whether a student has met the minimum requirements to receive an endorsement letter that will be given to the FAA during the student's application process. An institution may give a Pre-Endorsement to a student stating that the student is enrolled in an Enhanced AT-CTI program and their ATSA score.

To receive an Enhanced AT-CTI Endorsement, the student must satisfy the following criteria:

- Completed air traffic controller training, as demonstrated by passing the courses mapped to the AT Basics and IQ learning objectives.
- Conferred the appropriate degree or certificate, as demonstrated by the date listed on the transcript and diploma
- Successfully pass the final written and performance assessments.

The Endorsement must include final performance assessment scores and date, as well as any additional institution-specific criteria. An Enhanced AT-CTI Institution can also issue a Standard AT-CTI Endorsement to graduates who meet the requirements for a Standard AT-CTI endorsement.

5.5 Promotion of the Enhanced AT-CTI

The FAA maintains an AT-CTI website at <https://www.faa.gov/airtraffic/air-traffic-collegiate-training-initiatives-cti>. The website provides initiative information, including a list of approved Institutions, the location of the institutions, a link to the institution's website (if available), and a point of contact. The institution is responsible for accurately representing and promoting its Enhanced AT-CTI status and the intentions of the initiative in the institution's advertising and other promotional materials (in accordance with relevant institution policies).

5.6 Huddle Workspace

The Huddle Workspace is the initiative's online collaboration site and official document library. The site provides internal FAAAT-CTI Program Office and external institution representatives with restricted worksites for document storage and collaboration. The Huddle website also provides non-restricted work areas for cross-functional coordination and information sharing. Documents such as this Resource and Participation Guide, the course materials, and other reference information are accessible through Huddle. Documents are considered uncontrolled when downloaded. The FAAAT-CTI Program Office provides access to the documents.

Appendix A – Enhanced AT-CTI Minimum Equipment Requirements (MER)

Purpose

The requirements in this appendix describe the critical components of the simulation hardware and software that Enhanced AT-CTI Institutions will use. These requirements will be updated periodically as new technology, equipment, and procedures are incorporated into the Initial Qualification (IQ) courses. The FAA AT-CTI Program Office will ensure that institutions have the required equipment and are implementing the requirements as necessary.

How to Use

Requirements are separated into two different categories: Tower and En Route. Participating institutions will meet the minimum requirements for each category they choose to participate in. Institutions will be allowed to participate in both categories if they choose. All requirements must be met and maintained for an institution to be accepted as an Enhanced AT-CTI Institution. If at any time any of the requirements are not met, the Enhanced AT-CTI Institution must notify the FAA AT-CTI Program Office via email atcti@faa.gov. A meeting may be arranged at the discretion of the FAA AT-CTI Program Office to discuss further the outage and possible action for the participating institution. The notification must list the following:

- 1) The requirement cannot be met
- 2) The estimated time until the institution can resolve the issue
- 3) A short description of the impact of learning on the students
- 4) A mitigation strategy to reduce the impact on students

Tower Requirements

Hardware Requirements:

- Monitor size and orientation:
 - Monitors must be combined to display a 180° field of view.
 - Monitors must be at least 55" diagonal when set horizontally.
 - Display resolution must be at least 1080P/60Hz.
- A STARS keyboard or replica must be used.
- STARS Display.
- Flight strips must accurately represent what is used in a live tower environment.
- Two-way communication panel.

Software Requirements:

- Two-way communication software may be separate from the simulation software.
- Voice Recognition software may be utilized.
- Institutions will be able to work with vendors of their choosing.
- Academy Airspace must be utilized.
- Institutions must create training simulations to align with the information provided in the Course Design Guide.
- Institutions will be provided with scripts to develop the performance assessment simulations.
- Video and Voice Recording capability will be required for final performance assessments and made available to the FAA AT-CTI Program Office.

En Route Requirements

Hardware Requirements:

- Monitor size:
 - R-Side Monitors must have 43" UHD -OR- BARCO or equivalent.
 - D-Side Monitors must be at least 24" diagonal.
- Keyboard: An ERAM keyboard or replica must be used for both R-side and D-side.

- Keypad Selection Device (KSD).
- Flight strips must accurately represent what is used in a live en-route environment.
- Two-way communication panel.
- Video and Voice Recording capability will be required for final exams and made available to the AT-CTI Program Office.

Software Requirements:

- Two-way communication software may be separate from the simulation software.
- Voice Recognition software may be utilized.
- Institutions will be able to work with vendors of their choosing.
- Academy Airspace must be utilized.
- Institutions must create training simulations to align with the information provided in the Course Design Guide.
- Institutions will be provided with scripts to develop the performance assessment simulations.
- Video and Voice Recording capability will be required for final performance assessments and made available to the FAA AT-CTI Program Office.

Recording Requirements for Performance Assessments

Recording:

Must record the entire trainee experience to include:

- System interactions by the trainee (keystrokes and mouse/slew ball movements).
- Strip marking, strip-handling
- Trainee view of the system
- Screen capture of TSS or EDST/Main Radar Display simulations.
- Audio interactions by trainees and Remote Pilot Operators (RPOs)
- Trainee interaction with other trainees.
- Limited environmental conditions during evaluation, such as noise and lighting, and
- A digital Camera must have a minimum of 720p and must capture audio.

Synchronized Playback:

All aspects of the recorded evaluation must be synchronized to reproduce the exact conditions of the evaluation to include:

- Voice recordings of the trainee, RPOs/ remote simulator operators (RSOs), and
- Video recordings of the system screens and trainee actions/interactions.

Storage and Retention Requirements:

- Recordings must be stored securely for a minimum of three (3) years.
- Standardized naming convention must be used for standardized recall of all recordings

Appendix B – Auditing Checklist

Enhanced AT-CTI On-Site Audit Report					
1. School Name		2. Date		3. ☐ Annual ☐ Ad-Hoc	
4. Performance	Requirement Group	Requirement	Satisfactory	Unsatisfactory	Not Applicable
	Tower	1. Monitors display continuous 180° Field of View at a minimum			
		2. Monitors at least 55" diagonal			
		3. Display resolution/refresh rate at least 1080P/60Hz			
		4. STARS Keyboard functions and presentations are accurately replicated			
		5. STARS Display functions are accurately replicated			
		6. Flight Strips			
		7. Two-way Communication Panel functions accurately replicated			
		8. Academy Airspace			
	En Route	9. R-Side Monitor size 43" UHD -OR- BARCO equivalent			
		10. D-Side Monitor 24" diagonal			
		11. ERAM keyboard on R and D sides functions and design are accurately replicated			
		12. Keypad Selection Device (KSD)			
		13. Flight Strips			
		14. Two-way Communication panel functions accurately replicated			
		15. Academy Airspace			
	Simulation Tower	16. Aircraft displayed matches required types			
		17. Scenario complexity and volume match mapping guide			
		18. RPO or voice recognition software performance is acceptable			
	Simulation En Route	19. Scenario complexity and volume match mapping guide			
		20. Aircraft performance as expected			
		21. RPO or voice recognition software performance is acceptable			
	Assessments Tower	22. Scenario matches Academy			
		23. RPO or voice recognition software performance is acceptable			
	Assessments En Route	24. Scenario matches Academy			
		25. RPO or voice recognition software performance is acceptable			
	Recording	26. Students system interactions are captured			
		27. Strip marking/Strip handling are captured			
		28. Screen capture of TSS			
		28. Screen capture of EDST and MDM			
		29. Any digital cameras must have a minimum of 720P and capture audio			
		30. Audio interactions by trainee and RPOs/voice recognition software			
31. Audio interactions between trainees					
	32. Recording equipment Limited environmental conditions during evaluation such as noise and lighting.				

Enhanced AT-CTI On-Site Audit Report	
5. Comments	
6. Results ☐ Pass ☐ Fail ☐ Pass with stipulations	
8. FAA Auditor Certification I certify that the this institution meets requirements Name of Auditor: _____ Signature: _____ Date: _____	

Appendix C – Evaluator Requirements

Purpose

The requirements in this appendix describe the process of becoming an FAA-approved evaluator. This process is a collaboration between the FAA AT-CTI Program Office within the FAA Safety/Technical Training Department (AJI) and the FAA Air Traffic Safety Oversight Service (AOV). The requirements in this appendix are for Enhanced AT-CTI Institutions only and will be supplemented with the FAA-Approved Evaluator Handbooks.

Requirements

Institutions must use an FAA-approved evaluator to examine performance assessments for students in Enhanced AT-CTI. FAA-approved evaluators must be a former FAA-certified Air Traffic Control Specialists (ATCS) or Department of Defense (DoD) with at least 3 years of experience for each type of environment they are evaluating (Tower and/or En route). They are also required to have FAA/DoD On-the-job Training Instructor (OJTI) experience or FAA Operations Supervisor (OS)/DoD Watch Supervisor experience. An FAA-approved evaluator may not currently be employed by the FAA or DoD. The FAA-approved evaluator can teach classwork and simulations and can evaluate students they instructed on simulations. FAA-approved evaluators may provide evaluations for other Enhanced AT-CTI Institutions.

Tower

Self-Study:

FAA-approved evaluators will be required to have a mastery of pertinent materials:

- Map: Academy Airport Layout and Academy Airspace and Instrument Procedures.
- Tower IQ course materials.
- FAA-Approved Evaluator Handbooks.
- AOV training requirements

In-Person:

In-person certification will occur at the Mike Monroney Aeronautical Center (MMAC) in Oklahoma City. The applicant will complete grading forms alongside a certified evaluator. The in-person certification will consist of the following:

- Observing a certified evaluator on full ground control evaluation scenario(s).
- Observing a certified evaluator on full local control evaluation scenario(s).
- Co-grading with a certified evaluator on ground control evaluation scenario(s).
- Co-grading with a certified evaluator on local control evaluation scenario(s).

Evaluation:

Evaluations will be taken at the MMAC.

- Knowledge test: The applicant must take the same written evaluation the FAA's Academy provides their evaluators. The applicant must obtain a passing score of 90% or above.
- Performance Assessments: The applicant must co-grade an evaluation and have a difference of no greater than +/- 10 pts
 - At a minimum, the applicant must co-grade one (1) evaluation scenario for the following certifications:
 - Ground Control Evaluation Certification.
 - Local Control Evaluation Certification.

Note: If an FAA-approved evaluator applicant fails a performance assessment, the applicant can have one additional co-grade training before completing one (1) final attempted evaluation. If the applicant fails the second attempt, the institution will create a mitigation strategy to

produce training and a timeline. The mitigation strategy will be shared with the FAAAT-CTI Program Office and AOV.

En Route

Self-Study:

Self-study should be accomplished at the applicant's institution before the in-person certification. FAA-approved evaluators will be required to have a mastery of pertinent materials:

- Map: ZAE Sector 66 Map.
- En Route IQ course materials.
- En Route testing materials.
- FAA-Approved Evaluator Handbook.
- AOV training requirements.

In-Person:

In-person certifications will take place at the MMAC in Oklahoma City. The applicant will complete grading forms alongside a certified evaluator. The in-person certification will consist of the following:

- Observing a certified evaluator on full evaluation scenario(s).
- Co-grading with a certified evaluator on full evaluation scenario(s).

Evaluations:

Evaluations will be taken at the MMAC.

- Knowledge test: The applicant must take the same written evaluation the institution provides its students. The applicant must obtain a passing score of 90% or above.
- Performance assessments: The applicant must co-grade an evaluation with a difference of no greater than +/- 10 pts.
 - At a minimum, the applicant must co-grade one (1) evaluation scenario for the following certifications.
 - En Route Evaluation Certification.

Note: If an FAA-approved evaluator applicant fails a performance assessment, the applicant can have one (1) additional co-grade training before completing one (1) final attempted evaluation. If the applicant fails the second attempt, the institution will create a mitigation strategy to produce training and a timeline. The mitigation strategy will be shared with the FAA AT-CTI Program Office and AOV.

Losing Certification

Decertification:

Due to inactivity:

- A. An FAA-approved evaluator must evaluate a performance assessment at least once within a consecutive 12-month period.
 1. Failure to meet the requirement will result in the evaluator being decertified.
 2. The evaluator must be recertified before resuming evaluations

Due to conduct:

- A. The institution or AOV will consult with the FAA AT-CTI Program Office if any conduct is observed that may warrant an FAA-approved evaluator being decertified.
 1. Generally, the conduct that would lead to this action would fall under one of the following categories:
 - a) Damages the integrity of the Initial Tower/Terminal Radar Cab Training program
 - b) Indicates that the FAA-approved evaluator is not acting as an impartial party.
 - c) Repeated or extreme unprofessionalism, especially when directed towards a student, instructor, RPO, or fellow evaluator.

- B. The AOV Manager will make the final decision on whether the evaluator should be decertified due to conduct.
- C. If decertified, the evaluator must be recertified before resuming evaluations.

Recertification:

- Due to inactivity:
 - Less than eighteen (18) months since the last evaluation was performed.
 - Certification attempt will be necessary
 - Greater than eighteen (18) months since the last evaluation performed.
 - Training must be repeated.

Termination: For termination, reference the FAA-approved evaluator handbooks.

Evaluator Application (For Reference Only)

Enhanced AT-CTI Program Evaluator Application

Applicant Acknowledgement Statement
If approved as an evaluator under the Enhanced AT-CTI Program, I understand that: - This privilege conveys responsibilities, but does not imply employment or other rights unrelated to FAA evaluation. - The FAA has oversight responsibilities of my evaluator performance, and can observe my evaluation activities at any time. - I must successfully complete required training within the time frames established, including passing the examinations provided during training. - I will perform my tasks with integrity and cooperation, exercising sound judgment and a professional attitude in all my dealings with the public and the FAA as related to the Enhanced AT-CTI Program.
I Agree ☐ I Decline ☐

Designee Questions
Were you CPC rated in an FAA facility relevant to the courses you will evaluate? (Tower and/or En route)? Yes ☐ No ☐
Were you certified as an Operations Supervisor or OJT Instructor in a facility relevant to the courses you will evaluate (Tower and/or En route)? Yes ☐ No ☐
CTO Certificate Number (if applicable) Facility of Most Recent CTO Certificate (if applicable)
FAA Credential Number (if applicable) Most Recent En Route Facility (if applicable)



Federal Aviation
Administration

Evaluator Application

Enhanced Air Traffic-Collegiate Training Initiative

Applicant Acknowledgment Statement

If approved as an Enhanced AT-CTI, FAA-Approved Evaluator, I understand that: *

- This privilege conveys responsibilities but does not imply employment or other rights unrelated to FAA evaluation.
- The FAA has oversight responsibilities over my evaluator performance and can observe my evaluation activities at any time.
- I must successfully complete required training within the time frames established, including passing the examinations provided during training.
- I will perform my tasks with integrity and cooperation, exercising sound judgment and a professional attitude in all my dealings with the public and the FAA as related to Enhanced AT-CTI evaluations.

Check if you agree:

☐

☐ Send me a copy of my responses

Submit

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Federal Aviation
Administration

Evaluator Application

Enhanced Air Traffic-Collegiate Training Initiative

Additional Experience: ATCT you held a CTO

Include FAA Air Traffic Control Tower and dates of employment.

Credential Number (if applicable)

I have entered a minimum of 3 years of FAA experience and I'm ready to sign and submit my application. *

☒

Release of Information & Certification Statement

Read the following statements CAREFULLY. You must acknowledge all statements in order to continue the application process. *

- I understand that a false statement on any part of this application will be grounds for not approving this application, or rescinding my eligibility as an evaluator.
- I understand that any information given may be investigated.
- I consent to the release of information regarding my personal and technical qualifications for designation by employers, schools, law enforcement agencies, and other individuals and organizations, to investigators, employees of the federal government, and persons not employed by the federal government to whom the FAA has delegated the authority to screen applicants.
- I understand that my FAA accident/incident/violation history will be evaluated, as appropriate, at each stage of the application process.
- I certify that, to the best of my knowledge and belief, all data and information that I entered in this application are true, correct, complete, and made in good faith.

Enter your name below to acknowledge and consent to all statements above.

This field is required

☐ Send me a copy of my responses

Submit

Designee Contact Information	
First Name:	
Middle Name:	No Middle Name ☐
Last Name:	
Suffix:	
Contact Phone:	
E-mail:	

Training Organization Information	
Institution Name:	
Street Address:	
City/State	Zip Code:
Phone Number:	

Attachments	
Click Here to Add an Attachment	I have attached the required documents ☐
Please attach a professional resume and/or the Supplemental Information Sheet (attached)	

Release of Information and Certification Statement	
Read the following statements CAREFULLY. After you read each statement, you MUST acknowledge by clicking in the block. All statements must be acknowledged prior to continuing with the application process.	
I understand that a false statement on any part of this application will be grounds for not approving this application, or rescinding my eligibility as an evaluator.	☐
I understand that any information given may be investigated.	☐
I consent to the release of information regarding my personal and technical qualifications for designation by employers, schools, law enforcement agencies, and other individuals and organizations, to Investigators, employees of the Federal government, and persons not employed by the Federal government to whom the FAA has delegated the authority to screen applicants.	☐
I understand that my FAA accident/incident/violation history will be evaluated, as appropriate, at each stage of the application process.	☐
I certify that, to the best of my knowledge and belief, all data and information that I entered in this application are true, correct, complete, and made in good faith.	☐

Applicant Signature	
	Submit Application

FAA Use	Comments (mandatory if not approved)
AT Safety Oversight Service	
AT-CTI Program Office	
Evaluator ID	

Appendix D – Memorandum of Understanding (For Reference Only)

FOR REFERENCE ONLY

Enhanced AT-CTI Memorandum of Understanding
between the
Federal Aviation Administration
and
«Institution_Name_»

Purpose

The purpose of this Memorandum of Understanding (MOU) between the Federal Aviation Administration (FAA) and «Institution_Name_» is to establish the cooperative relationship for «Institution_Name_»'s participation in the Enhanced Air Traffic – Collegiate Training Initiative (AT-CTI or Initiative). This MOU is independent of any other agreement that may exist between the FAA and «Institution_Name_».

The Enhanced AT-CTI aims to create relationships that focus on preparing candidates for the Air Traffic Control Specialist (ATCS) position at the FAA for the benefit of both the FAA and the «Institution_Name_».

Background

This MOU intends to define, to the extent permissible under current laws and regulations, a cooperative relationship between the FAA and «Institution_Name_» under which «Institution_Name_» teaches the equivalent curriculum offered at the FAA Academy to ATCS trainees. The FAA derives the legal authority to enter into this MOU under 49 U.S. Code § 44506 (as amended) and delegated authority under applicable laws that express that the FAA may maintain the Enhanced AT-CTI by making new agreements and continuing existing agreements with institutions of higher education.

The FAA does not guarantee that any graduate of «Institution_Name_» will be selected or employed as an FAA ATCS. Enhanced AT-CTI graduates are not a direct hiring source, but graduates may receive preferential consideration in the process pursuant to 49 U.S. Code § 44506 (as amended). While the parties may extend this MOU, the FAA also makes no representation about whether the Initiative will continue after the expiration of this MOU.

Responsibilities

FAA Responsibilities

- Establishes the FAA AT-CTI Program Office to act as the FAA's central contact to schools for the Enhanced AT-CTI.

FOR REFERENCE ONLY

- Creates and maintains the requirements for continued participation in the Initiative, and related standard operation procedures, work instructions, guidance documents, forms, and libraries.
- Interacts with institutions to establish, maintain, review, and terminate their status as an Enhanced AT-CTI partner institution, including coordinating reviews of the MOU and related documents.
- Provides technical guidance and access to current Initiative-related documents, including relevant orders, directives, and policies.
- Provides requirements and oversight.
- Provides guidance and training to institutions for designation and utilization of FAA-approved evaluators.
- Manages the Enhanced AT-CTI Huddle Site.
- Provides Enhanced AT-CTI institutions with feedback about their programs.
- Provides timely information on topics of interest through regular communication among participating institutions and the FAA.
- Set teaching goal standards and provide relevant air traffic control curriculum, including lesson plans, academic testing materials, student handouts, and other materials that cover the learning objectives for the Air Traffic (AT) Basics course, Tower Initial Qualification (IQ) course, and En Route IQ course.
- Ensures evaluator applications meet FAA AT-CTI Program Office requirements.
- Certifies FAA-approved evaluators.
- Conducts oversight activities on the performance of FAA-approved evaluators, including reviewing recordings of final assessments, reviewing records, monitoring and tracking of an evaluator's compliance with requirements, and direct observation.
- Tracks and recertifies FAA-approved evaluators annually.

«Institution Name » Responsibilities

- Meets or exceeds all requirements set forth in the Enhanced AT-CTI Resource and Participation Guide.
- Retains a central program office to coordinate Initiative topics with the FAA and respond to FAA information requests or data.
- Provides an FAA-approved evaluator for final assessment.
- Retains records as established in the Enhanced AT-CTI Resource and Participation Guide.
- Ensures the curriculum satisfies the teaching and training objectives established by the FAA for the AT Basics, Tower IQ, and En Route IQ courses.
- Ensures the faculty meets the requirements set forth in the Enhanced AT-CTI Resource and Participation Guide and are up-to-date and current on FAA policies and procedures. Currency on FAA policies and procedures need to be recorded and retained for oversight from the FAA AT-CTI Program Office.
- Provides counseling to students in all aspects of participation in the Initiative.
- Accurately represents the intentions of the Initiative in «Institution_Name_»'s advertising and other promotional or marketing materials.

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- Maintains the confidentiality of any confidential materials shared by the FAA.
- Strives for diversity and inclusion of the student population enrolled in «Institution_Name_»'s Initiative.
- Should «Institution_Name_» opt to change its participation in the Initiative, informs the FAA of the status of in-progress students and of relevant teach-out agreements in accordance with the Resource and Participation Guide.
- Any change that affects the status of «Institution_Name_»'s participation must be reported in writing to the FAA in accordance with the Resource and Participation Guide.

Other areas of collaboration may include the following:

- Opportunity to link the FAA and «Institution_Name_» websites for specific activities and acknowledgment of selection into the Initiative.
- Facility visits, workshops, seminars, internships, and other programs to provide an opportunity for cooperation in developing students' practical understanding of FAA air traffic control operations.
- Provision of information, consistent with applicable law, about FAA job vacancy announcements, the application processes, and eligibility requirements for students who graduate from «Institution_Name_»'s program under the Initiative.

Funding

This MOU in no way obligates the FAA or «Institution_Name_» to any financial expenditure. Activities carried out by each party in support of this MOU are to be funded by the respective parties. Nothing contained herein is intended to prohibit either party from seeking or awarding funding available under any other program.

Transferability

This MOU is not transferable or expandable to another party. Any change in «Institution_Name_»'s name, location, and/or ownership will require «Institution_Name_» to submit a new application in accordance with the Resource and Participation Guide.

Duration, Amendment, and Termination

This MOU will continue in effect for one year from the FAA's signature date, unless terminated earlier by either party. Changes and/or modifications to the MOU must be in writing and signed by the FAA and an authorized representative of «Institution_Name_». No oral statement by any person will be interpreted as modifying or otherwise affecting the terms of this agreement. The agreement may be terminated at any time by either party, with or without cause, upon thirty (30) calendar days prior written notice to the other party.

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Please sign, date and print signatory's name and title below.

For the FAA:

For the Enhanced AT-CTI Institution:

Kathleen Simays
Director (A), Technical Training
Air Traffic Organization

«Institution_Name_»

Date:

Date

Appendix E Kentucky Postsecondary Institutions AT-CTI Program Capabilities Checklist

Legend

Eligible / Complete

Further Review

Ineligible / Incomplete

Kentucky Universities & KCTCS	Institution Type			
	Degree-granting	Not-for-profit	Two- or Four-year Postsecondary Educational Institution	Public or Private
Standard Enhanced				
Eastern Kentucky University	✓	✓	✓	✓
Kentucky Community & Technical College System				
Ashland	✓	✓	✓	✓
Big Sandy	✓	✓	✓	✓
Bluegrass	✓	✓	✓	✓
Elizabethtown	✓	✓	✓	✓
Gateway	✓	✓	✓	✓
Hazard	✓	✓	✓	✓
Henderson	✓	✓	✓	✓
Hopkinsville	✓	✓	✓	✓
Jefferson	✓	✓	✓	✓
Madisonville	✓	✓	✓	✓
Maysville	✓	✓	✓	✓
Owensboro	✓	✓	✓	✓
Somerset	✓	✓	✓	✓
Southcentral	✓	✓	✓	✓
Southeast	✓	✓	✓	✓
West Kentucky	✓	✓	✓	✓
Kentucky State University	✓	✓	✓	✓
Morehead State University	✓	✓	✓	✓
Murray State University	✓	✓	✓	✓
Northern Kentucky University	✓	✓	✓	✓
University of Kentucky	✓	✓	✓	✓
University of Louisville	✓	✓	✓	✓
Western Kentucky University	✓	✓	✓	✓

Kentucky Universities & KCTCS		Accreditation		Degree		Initiative Participation
Standard Enhanced		Rcognized by Council for Higher Education Accreditation (CHEA)	Listed in the Dept. of Education Database of Accredited Postsecondary Institutions and Programs	Currently offer at least one non-engineering aviation degree	Degree contains the FAA AT-Basics curriculum	Completed the Standard or Enhanced AT-CTI review process.
Eastern Kentucky University		✓	✓	✓	!	✗
Kentucky Community & Technical College System						
Ashland		✓	✓	✗		
Big Sandy		✓	✓	✗		
Bluegrass		✓	✓	✗		
Elizabethtown		✓	✓	✗		
Gateway		✓	✓	✗		
Hazard		✓	✓	✗		
Henderson		✓	✓	✗		
Hopkinsville		✓	✓	✗		
Jefferson		✓	✓	✗		
Madisonville		✓	✓	!	✗	
Maysville		✓	✓	✗		
Owensboro		✓	✓	✗		
Somerset		✓	✓	✗		
Southcentral		✓	✓	✗		
Southeast		✓	✓	✗		
West Kentucky		✓	✓	✗		
Kentucky State University		✓	✓	✗		
Morehead State University		✓	✓	✗		
Murray State University		✓	✓	✗		
Northern Kentucky University		✓	✓	✗		
University of Kentucky		✓	✓	✗		
University of Louisville		✓	✓	✗		
Western Kentucky University		✓	✓	✗		

Kentucky Universities & KCTCS		Faculty				
Standard Enhanced		Former CPC or has a current pilot's license with an instrument rating	Minimum three years of teaching experience	Bachelor's degree from an accredited institution	Institution has process to review faculty requirements	Faculty are not current FAA employees
Eastern Kentucky University		✓	✓	✓	✓	✓
Kentucky Community & Technical College System						
Ashland						
Big Sandy						
Bluegrass						
Elizabethtown						
Gateway						
Hazard						
Henderson						
Hopkinsville						
Jefferson						
Madisonville		✓	✓	✓	✓	✓
Maysville						
Owensboro						
Somerset						
Southcentral						
Southeast						
West Kentucky						
Kentucky State University						
Morehead State University						
Murray State University						
Northern Kentucky University						
University of Kentucky						
University of Louisville						
Western Kentucky University						

Kentucky Universities & KTCES		Enhanced Faculty		Curriculum			
Standard Enhanced		Minimum of three years of fully credentialed experience as: FAA ATCS, military, International Civil Aviation Organization (ICAO), and/or CTO controllers	Minimum two years of CPC, or equivalent, in the specialty taught	Covers the FAA AT Basics course learning objectives mapped to the aviation curriculum	Covers Tower and/or En Route learning objectives mapped to the aviation curriculum IQ course	School method to assess and update course curriculum	School process to verify effective and efficient presentation of course content
Eastern Kentucky University		✓	✓	⚠	✗	✓	✓
Kentucky Community & Technical College System							
Ashland							
Big Sandy							
Bluegrass							
Elizabethtown							
Gateway							
Hazard							
Henderson							
Hopkinsville							
Jefferson							
Madisonville		✗	✗	✗	✗	✓	✓
Maysville							
Owensboro							
Somerset							
Southcentral							
Southeast							
West Kentucky							
Kentucky State University							
Morehead State University							
Murray State University							
Northern Kentucky University							
University of Kentucky							
University of Louisville							
Western Kentucky University							

Kentucky Universities & KTCs	Testing		Evaluation	Non-Disclosure Agreements (NDAs)	Technology
Standard Enhanced	Method for testing students’ mastery of the AT Basics learning objectives	Completed AT Basics Testing Blueprint provided on Huddle	School has coordinated with an FAA-approved evaluator to conduct final performance assessments	NDA is signed between the institution and the FAA	School operates and maintains Minimum Equipment Requirements (MER)
Eastern Kentucky University	⚠	⚠	⚠	✓	✗
Kentucky Community & Technical College System					
Ashland					
Big Sandy					
Bluegrass					
Elizabethtown					
Gateway					
Hazard					
Henderson					
Hopkinsville					
Jefferson					
Madisonville					
Maysville					
Owensboro					
Somerset					
Southcentral					
Southeast					
West Kentucky					
Kentucky State University					
Morehead State University					
Murray State University					
Northern Kentucky University					
University of Kentucky					
University of Louisville					
Western Kentucky University					

Appendix F Embry-Riddle (Daytona Beach) Curriculum for B.S. in Air Traffic Management

B.S. in Air Traffic Management

The Applied Aviation Sciences Department offers a Bachelor of Science degree in Air Traffic Management (ATM). This degree is designed to provide a comprehensive education to prepare graduates for productive careers and responsible citizenship in the field of air traffic management. The degree provides global leadership in the field of air traffic management and offers coursework and laboratory experiences that prepare students for immediate productivity and career growth with the Federal Aviation Administration, the Department of Defense, commercial air traffic facilities, and international air navigation services. It is the intent of the Bachelor of Science in Air Traffic Management to accomplish this goal by:

- Emphasizing academic excellence in the teaching of all courses and programs.
- Pursuing research and creative activities that maintain and extend knowledge in the field of Air Traffic Management.
- Supporting each student's personal development by encouraging participation in internships and co-op programs.
- Providing an international study abroad program

Student Learning Outcomes

Students will:

- Conduct operations in the en route air traffic control environment related to non-radar separation and procedures.
- Conduct operations using high-fidelity simulation in the en route air traffic control environment related to radar separation and procedures.
- Recall information on the basics of air traffic control, including its history, mission, and duty priority.
- Conduct operations using high-fidelity simulation in the airport terminal environment related to VFR Control Tower operations.
- Conduct operations using high-fidelity simulation in a low volume terminal radar environment related to radar separation and procedures.
- Conduct operations using high-fidelity simulation in a high volume, complex terminal radar environment related to radar separation and procedures.
- Apply accepted practices in air traffic management to analyze a cumulative knowledge of collaborative air traffic management, traffic flow management, and advanced air traffic management procedures.

General Education Requirements*

For a full description of Embry-Riddle General Education guidelines, please see the General Education section of this catalog. These minimum requirements are applicable to all degree programs.

Communication Theory & Skills	9
Lower-Level Humanities	3
Lower-Level Social Sciences	3
Lower or Upper-Level Humanities or Social Sciences	3
Upper-Level Humanities or Social Sciences	3
Computer Science	3
Mathematics (MA 111 and MA 112)	6
Physical and Life Sciences (WX 201 required)	6
Total Credits	36

Air Traffic Management Core

AT 202	Introduction to Air Traffic Management **	3
AT 305	Introduction to Terminal Radar Operations	3

AT 306	Safety in Air Traffic Management **	3
AT 307	Global Harmonization in Air Traffic Management **	3
AT 315	Introduction to Air Traffic Control Tower **	3
AT 401	Advanced Terminal Radar Operations **	3
AT 405	Advanced En Route Operations	3
AT 415	Advanced Air Traffic Control Tower	3
AT 425	Collaborative Air Traffic Management	3
BA 201	Principles of Management	3
BA 310	Airport Management	3
BA 315	Airline Management	3
SF 210	Introduction to Aerospace Safety	3
WX 301	Aviation Weather	3
Total Credits		42

Aviation Related Minor or Breadth Area (Approved by AAS department)	15-24
Open Electives Upper Level	6
Open Electives	12-21
Total Degree Credits	120

* Embry-Riddle courses in the general education categories of Communication Theory and Skills, Computer Science, Humanities, Social Sciences, Mathematics, and Physical Sciences may be chosen from those listed below, assuming prerequisite requirements are met. Courses from other institutions are acceptable if they fall into these broad categories and are at the level specified in the Air Traffic Management vertical outline.

** May be taken as a (HYB) Hybrid course.

Suggested Plan of Study

Students should be aware that several courses in each academic year might have prerequisites and/or corequisites. Please check the course descriptions in this catalog before registering for classes to ensure requisite sequencing.

Year One		Credits
AT 202	Introduction to Air Traffic Management	3
MA 111	Pre-Calculus for Aviation	3
MA 112	Applied Calculus for Aviation	3
WX 201	Survey of Meteorology	3
	Communication Theory and Skills	6
	Computer Science Elective	3
	Humanities Lower-Level Elective	3
	Open Elective	3
	Physical Sciences with Laboratory	3
Credits Subtotal		30.0
Year Two		
AT 305	Introduction to Terminal Radar Operations	3
AT 306	Safety in Air Traffic Management	3
BA 201	Principles of Management	3
BA 310	Airport Management	3
SF 210	Introduction to Aerospace Safety	3
	Communication Theory and Skills	3
	Lower-Level Social Science	3
	Upper-Level Humanities or Social Science	3
	Upper or Lower-Level Humanities or Social Science	3

	Open Elective	3
	Credits Subtotal	30.0
Year Three		
AT 307	Global Harmonization in Air Traffic Management	3
AT 315	Introduction to Air Traffic Control Tower	3
AT 401	Advanced Terminal Radar Operations	3
AT 405	Advanced En Route Operations	3
BA 315	Airline Management	3
WX 301	Aviation Weather	3
	Open Elective Upper-Level	6
	Open Elective	3
	Minor Requirement	3
	Credits Subtotal	30.0
Year Four		
AT 415	Advanced Air Traffic Control Tower	3
AT 425	Collaborative Air Traffic Management	3
	Minor or breadth area - approved by the Applied Aviation Sciences Department	15-24
	Open Elective (subject to Minor requirements)	3-9
	Credits Subtotal	24.0-39.0
	Credits Total:	120

Appendix G SUNY Schenectady County Curriculum Worksheet

SUNY SCHENECTADY COUNTY

CURRICULUM WORKSHEET

PROGRAM: **AIR TRAFFIC CONTROL (A.A.S.)**

HEGIS # 2305

SCCC Program Code # 86

Program Entry Date:

Student Name:

Former College(s) Attended:

SCCC ID Number:

CR	PROGRAM REQUIREMENTS		SUNY GENERAL ED CATEGORY	SATISFIES LIBERAL ARTS AND SCIENCES
AER 120	Aviation Operations for ATC	2		
AER 150	Airport Operations, Safety and Security	3		
AER 210	Aviation Law	3		
AER 236	Flight Safety	3		
ATC 101	Flight for Controllers	1		
ATC 110	Air Traffic Basics	3		
ATC 141	Instrument for Controllers	1		
ATC 200	Ground Control Operations	3		
ATC 205	Ground Control Lab	2		
ATC 250	Local Control	3		
ATC 255	Local Control Lab	2		
ATC 260	Enroute Control	3		
ATC 265	Enroute Control Lab	2		
	CIS Elective	3		
ENG 123	College Composition	3	Humanities; Information Literacy	YES
ENG 211	Technical Writing	3	Communication: Written and Oral; Critical thinking and Reasoning	YES
ENG 211	Technical and Applied Ethics	1		
FYS 100	First Year Seminar	1		
MAT 123	Quantitative Reasoning	3	Mathematics and Quantitative Reasoning	YES
MAT 149	Topics in Finite Mathematics	3	Mathematics and Quantitative Reasoning	YES
PHY 106	Meteorology	3	Natural Sciences and Scientific Reasoning	YES
PSY 121	Introduction to Psychology	3	Social Sciences OR U.S. History and Civic Engagement	YES
	Diversity: Equity, Inclusion, and Social Justice SUNY General Education Elective	3	Diversity: Equity, Inclusion, and Social Justice	
	Humanities Elective	3	U.S. History and Civic Engagement OR World History and Global Awareness OR World Languages	YES
	Minimum Credit Hours	60	Total # Gen.Ed. Credits: 24	
			Total # Gen.Ed. Categories: 7	Total # Liberal Arts and Sciences Credits: 21

Additional Comments: Please refer to the footnotes on the reverse side.

Reviewed by _____

Date _____

**AVIATION SCIENCE
ASSOCIATE IN SCIENCE**

FIRST YEAR

Fall Semester				CR	Spring Semester				CR
ATC	120	Aviation Operations for ATC		2	ATC	141	Instrument for Controllers		1
ATC	101	Flight for Controllers		1	ATC	200	Ground Control Operations		3
ATC	110	Air Traffic Basics		3	ATC	205	Ground Control Lab		2
ENG	123	College Composition		3	CIS		Elective		3
FYS	100	First Year Seminar		1	MAT	149	Topics in Finite Math		3
MAT	123	Quantitative Reasoning		3	PHY	106	Meteorology		3
HUM		Humanities Elective		3					
				16					15

SECOND YEAR

Fall Semester				CR	Spring Semester				CR
AER	150	Airport Operations, Safety & Security		3	AER	210	Aviation Law		3
AER	236	Flight Safety		3	ATC	260	Enroute Control		3
ATC	250	Local Control		3	ATC	265	Enroute Lab		2
ATC	255	Local Control Lab		2	ENG	211	Technical Writing		3
DEI	100	Identity, Power, and Equity in Modern Life		3	ETH	211	Technical & Applied Ethics		1
					PSY	121	Intro to Psychology		3
				14					15

Minimum Credit Hours required for degree: 60

Appendix H Tulsa Community College Air Traffic Control Curriculum Roadmap

Student ID: _____
Student Name: _____
Adviser Name: _____

Catalog: 2025-2026 College Catalog
Program: Air Traffic Control AAS Program Map
Minimum Credits Required: _____

Air Traffic Control AAS Program Map

This degree map provides you with the semester-by-semester course sequencing for a full-time student. To earn the Associate in Applied Science degree, you must achieve a grade point average of 2.0 ('C') as a minimum on all coursework required for the degree. Note the Milestones below each semester. Milestones are reminders of actions you should take during that semester to help keep you on track for degree completion.

First Semester

Course Name	Term Taken	Grade	Gen Ed
AVST 1344 - Introduction to the Federal Aviation Administration Semester Offered Fall			
AVST 2253 - Aviation Meteorology Semester Offered Fall, Spring			
AVST 1354 - Air Traffic Control Tower Operations I Semester Offered Fall			
MATH 1473 - Quantitative Reasoning Semester Offered Fall, Spring, Summer			
or			
MATH 1513 - Precalculus I Semester Offered Fall, Spring, Summer			

Total Credit Hours: 14

Milestones

- Check academic calendar for important dates and deadlines impacting classes and financial aid.
- See a financial aid counselor to determine your financial aid status.
- Download MS Office from MyTCC.
- Meet with the aviation academic counselor before enrolling for the next semester.

Second Semester

Course Name	Term Taken	Grade	Gen Ed
AVST 2273 - Air Traffic Control Career Prep Semester Offered Spring			
AVST 2225 - Air Traffic Control Tower Operations II Semester Offered Spring			
AVST 1113 - Private Pilot Ground School Semester Offered Fall, Spring, Summer			
ENGL 1113 - Composition I			
PSYC 1113 - Introduction to Psychology			

Total Credit Hours: 17

Milestones

- Check academic calendar for important dates and deadlines impacting classes and financial aid.
- See a financial aid counselor to determine your financial aid status.
- Meet with the aviation academic counselor before enrolling for the next semester.

Third Semester

Course Name	Term Taken	Grade	Gen Ed
AVST 2245 - Air Traffic Control Tower Operations III Semester Offered Fall			
AVST 1364 - Air Traffic Control Radar Operations Semester Offered Fall			
AVST 2293 - Certified Tower Operator Semester Offered Fall			
ENGL 1213 - Composition II			

Total Credit Hours: 15

Milestones

- Check academic calendar for important dates and deadlines impacting classes and financial aid.
- See a financial aid counselor to determine your financial aid status.
- Meet with the aviation academic counselor for a graduation check.

Fourth Semester

Course Name	Term Taken	Grade	Gen Ed
POLS 1113 - American Federal Government			
HIST 1483 - U.S. History 1492 to the Civil War Era			
or			
HIST 1493 - U.S. History - Civil War Era to the Present			
AVST 2264 - ATC Enroute and Nonradar Semester Offered Spring			
Students progressing into the Enhanced Tower Program will take:			
AVST 2522 - Air Traffic Control Tower Operations IV Enhanced Practical Semester Offered Spring			
AVST 2532 - Air Traffic Control Tower Operations IV Enhanced Written Semester Offered Spring			
All other students will take:			
AVST 2542 - Air Traffic Control Scenario Development Semester Offered Spring			
AVST 2552 - Air Traffic Control Tower Remote Pilot Operator Enroute Semester Offered Spring			

Total Credit Hours: 14

Milestones

- Check academic calendar for important dates and deadlines impacting classes and financial aid.
- See a financial aid counselor to determine your financial aid status.
- Meet with the aviation academic counselor to file for graduation.

Total Credit Hours: 60

Transfer Information

This degree is intended for transfer to a four-year university for completion of a baccalaureate degree. You should work closely with an academic advisor each semester to make certain you are enrolled in the correct courses for a seamless transfer process and you are encouraged to begin a dialogue with your intended transfer school as early as possible. Early coordination between TCC academic advisors and advisors from selected four-year institutions can streamline the transfer process. It is the student's responsibility to ensure that he/she understands the program/admission/transfer requirements for the transfer school.

Oklahoma State University (OSU)

TCC A.A.S in Air Traffic Control to OSU B.S. Aerospace Administration and Operations, Technical Service Management Option 2024-2025

TCC A.A.S Technology Air Traffic Control to B.S. Aerospace Administration, Technical Service Management Option 2023-2024

Notes:

Appendix I Florida Memorial University B.S. in Aeronautical Science Degree Checklist

PROGRAM DESCRIPTION

The mission of Florida Memorial University's Aviation & Safety department is to empower students to significantly increase their performance capability to achieve worthwhile purposes in the aviation industry through education.

- Bachelor of Science in Aeronautical Science – Concentration in Flight Education
- Bachelor of Science in Aeronautical Science – Concentration in Air Traffic Control
- Bachelor of Science in Aviation Management
- Minor in Aviation Safety
- Minor in Homeland Security

CAREER OPPORTUNITIES

Air Traffic Controller and Operations Manager

DEGREE CHECKLIST

FRESHMAN			
Prefix	Course No.	Course	Credits
COM	103	Intro to Public Speaking	3
CSC	101	Intro to Computers	3
AWS	200	Aviation History	3
FMU	101	University 101	2
ENG	101	College Writing I	3
	XXX	Scientific Inquiry	3
TOTAL - 1 st SEMESTER			17
AWS	102	Critical Thinking In Aviation	2
	200	Humanities / Fine Arts	3
MAT	111	College Algebra	3
HIS	103	African Diaspora and the World	3
REA	101	Critical Thinking & Reading	3
TOTAL - 2 nd SEMESTER			14

JUNIOR			
AWS	305	VFR Tower Operations	3
BUS	361	Leadership Application	3
AWS	418	Crew Resource Management	3
ENG	309	Advanced Grammar & Composition	3
XXX	XXX	Any Elective	3
TOTAL - 5 th SEMESTER			15
AWS	315	ATC Radar Procedures	3
AWS	320	Air Transportation	3
AWS	351	Aviation Legislation	3
AWS	410	Advance Terminal Ops	3
AWS	XXX	Aviation Elective	3
TOTAL - 6 th SEMESTER			15

SOPHOMORE			
Prefix	Course No.	Course	Credits
AWS	201	Intro to Aeronautics	3
MAT	111	College Algebra	3
	201	Language Requirement I	3
AWS	232	Air Traffic Control	3
REL	201	Intro to Philosophy	3
TOTAL - 3 rd SEMESTER			15
	200	Social / Behavioral Science	3
	202	Language Requirement II	3
AWS	240	Aviation Weather	3
AWS	316	Terminal Operations	3
REL	XXX	Religion & Philosophical Inquiry	3
TOTAL - 4 th SEMESTER			15

JUNIOR			
AWS	412	Enroute Operations	3
AWS	420	Flight Safety	3
XXX	XXX	Any Elective	3
XXX	XXX	Any Elective	3
AWS	XXX	Aviation Elective	3
TOTAL - 7 th SEMESTER			15
AWS	450	Senior Project	3
AWS	XXX	Aviation Elective	3
AWS	XXX	Aviation Elective	3
XXX	XXX	Any Elective	3
XXX	XXX	Any Elective	3
TOTAL - 8 th SEMESTER			15

Appendix J Florida State College at Jacksonville Aviation Administration (Air Traffic Control) Curriculum

About the Program

The Associate in Science (A.S.) Degree in Aviation Administration (Air Traffic Control) provides a broad overview of many “behind-the-scenes” operations that make the aviation industry function every day. Graduates may pursue work in airline and air cargo operations, business aviation, airport fixed-base operations (FBO), airport operations, unmanned aerial systems (drones) or air traffic control. For more information about the program, visit fscj.edu/2360.

Students may focus one of the following areas: Aircraft Dispatch, Air Traffic Control, or Unmanned Aerial Systems.

Aircraft Dispatch Track

With this track, students can go on to earn the FAA's Aircraft Dispatcher certificate and work for business and/or charter operations, air ambulance, airlines, and aircraft dispatcher. Passing both a written and practical test is required, and there may be additional costs outside FSCJ.

Although FSCJ is seeking FAA-approval, the program is not currently an authorized dispatch school. However, courses may be accepted as transfer credit towards FAA dispatcher training requirements. Interested students should check with dispatch schools to determine what may or may not transfer.

Air Traffic Control

Graduates of this track who complete the AT-CTI requirements will receive an endorsement to apply to the FAA as an Air Traffic Controller. Note: AT-CTI has specific course and GPA requirements. Students should be familiar with the FAA's hiring policy as well as hiring requirements such as medical, psychological, and background checks prior to employment.

Unmanned Aerial Systems (UAS)

Graduates of this track will be ready to take the FAA's Part 107 Remote Pilot exam and earn the certificate needed to conduct commercial “drone” flights and operations.

Program Requirements

This program requires a **minimum of 60 credit hours**. Total program hours may vary based on the student's individual academic degree plan. This program is **eligible** for financial aid.

This program includes an **Algebra Through Calculus math pathway**. This pathway is intended for students whose academic program requires a foundation of algebra, followed by a sequence of courses that may lead to calculus.

Placement Testing

College placement testing assesses incoming students' skill levels in English, mathematics, and reading. Students are exempt from placement testing if they meet any of the following conditions:

- Entered the ninth grade in a Florida public school in 2003 or after and graduated from a Florida Public High school with a standard high school diploma
- Are currently serving as an active-duty member of any branch of the U.S. Armed Services
- Have received an A.A., A.S., A.A.S. or higher from an accredited institution
- Have completed college-level courses in English and mathematics
- Have completed upper-level developmental courses in English/Reading and Mathematics
- Are a Transient student (Florida Shines or transient letter from home institution is required)

All other students in this program must take a placement test. Students who place into **developmental education courses** are required to complete designated developmental education courses with a grade of C or higher regardless of program of study and are also required to take one of two student success strategies courses. For additional information, visit catalog.fscj.edu/academics/developmental-education-programs or speak with an advisor.

Associate in Science Degree Graduation Requirements

- ☐ Fulfill all academic requirements for the chosen program of study as outlined in the Florida State College at Jacksonville catalog and curriculum.
- ☐ Earn a cumulative grade point average of 2.0 (C) at Florida State College at Jacksonville in courses eligible toward the Associate in Science degree programs, excluding developmental education courses (A.S. Florida State College at Jacksonville GPA).
- ☐ Earn an all-college cumulative grade point average of 2.0 (C) on a 4.0 scale on all courses attempted. This requirement includes Florida State College at Jacksonville college-credit semester hours and transferred credits (excluding developmental education) in lower division courses.
- ☐ Complete a minimum of 25 percent of the total hours required for the program in residence at Florida State College at Jacksonville. Credit by examination and credit for prior learning do not count toward this residency requirement.
- ☐ Complete the required semester hours, as specified by the degree, of which a minimum of 15 semester hours must be General Education requirements.
- ☐ Demonstrate competency in civic literacy. Competency is demonstrated by:
 - ☐ Completing of one of three civic literacy courses (AMH 1010, AMH 2020 or POS 2041) with a grade of C or higher, and
 - ☐ Achieving of the standard score on a state-approved assessment.
- ☐ Earn a grade of a C or higher in each course used to satisfy the general education requirements and any other area designated with a C or higher requirement.
- ☐ Fulfill all obligations, financial or otherwise, to the College before graduating.

Catalog Year

This document is prepared for students with a **2025-26 College Catalog year** who have not tested into developmental education courses. **Students who enter under the 2025-26 catalog** will be assigned to the degree or certificate requirements in effect during the 2025-26 academic year. The student's assigned catalog year will remain in effect as long as the student maintains continuous enrollment. Changes to requirements as mandated by law or by rule of the District Board of Trustees may supersede this provision.

To maintain continuous enrollment, a student must have registration for, and successful completion of, at least one course within a three-term period. After three consecutive terms of no enrollment, the student will be discontinued from the current program of study and will need to apply to FSCJ to reenter under the same program of study. Upon readmission, the student will be assigned to the current catalog of record in the chosen program.

Curriculum

A minimum grade of C or higher must be achieved in all General Education and Professional Coursework.

Terms Offered are subject to change. Please verify course availability at fscj.edu/schedules. Prior to enrolling in classes, please meet with an advisor for specific guidance about your individual academic degree plan.

General Education Coursework

- | | |
|---|---------------------|
| ☐ Communication State Core course, Credit Hours: 3-4. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| ☐ Mathematics State Core course, Credit Hours: 3-5.
Note: AT-CTI students must take a MAC-prefix course or MAP 2302 or STA 2023. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| ☐ Natural Sciences State Core course, Credit Hours: 3-4. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| ☐ Social and Behavioral Sciences: Civic Literacy course, Credit Hours: 3. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| ☐ Humanities State Core course, Credit Hours: 3. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |

Professional Coursework

- | | |
|---|---------------------|
| ☐ ASC 1010 - Foundations of Air Transportation, Credit Hours: 3. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| ☐ ATT 1101 - Private Pilot Theory, Credit Hours: 3. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| ☐ ATT 1810 - Environment of the Air Traffic Controller, Credit Hours: 3. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| ☐ ASC 1210 - Aviation Weather, Credit Hours: 3. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| ☐ ASC 2560 - Unmanned Aerial Systems, Credit Hours: 3. Terms Offered: Spring. | Grade Earned: _____ |
| ☐ AVM 2120 - Air Cargo Operations, Credit Hours: 3. Terms Offered: Fall. | Grade Earned: _____ |
| ☐ ASC 1310 - Aviation Regulations and Legal Issues, Credit Hours: 3. Terms Offered: Fall, Spring, Summer. | Grade Earned: _____ |
| ☐ ASC 2870 - Aviation Safety, Credit Hours: 3. Terms Offered: Fall, Summer. | Grade Earned: _____ |
| ☐ AVM 1440 - Aviation and Airport Security, Credit Hours: 3. Terms Offered: Summer. | Grade Earned: _____ |
| ☐ AVM 2022 - Flight Operations Management, Credit Hours: 3. Terms Offered: Fall. | Grade Earned: _____ |
| ☐ AVM 2410 - Principles of Airport Management, Credit Hours: 3. Terms Offered: Spring. | Grade Earned: _____ |
| ☐ AVM 2510 - Aviation Management and Marketing, Credit Hours: 3. Terms Offered: Summer. | Grade Earned: _____ |

Professional Elective Coursework

- | | |
|---|---------------------|
| ☐ Professional Elective course, Credit Hours: 3. | Grade Earned: _____ |
| ☐ Professional Elective course, Credit Hours: 3. | Grade Earned: _____ |
| ☐ Professional Elective course, Credit Hours: 3 | Grade Earned: _____ |

Course Requirements

Prerequisites, corequisites, and conditions for any course are subject to change. Students must meet the prerequisite and corequisite requirements of any course at the time the student attempts to register for that course. If you have questions about the prerequisites, corequisites, or conditions for a course, please contact any academic advisor.

General Education Communication Courses

Complete one of the following courses.

ENC 1101 - English Composition I, Credit Hours: 3. *State Core course.*

Prerequisite(s): Satisfactory score on the placement test for non-exempt students only. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule writing requirement and must be completed with a grade of C or higher pursuant to State Board of Education Rule 6A-10.030. Effective Spring 2014, students who entered the ninth grade in a Florida public high school in the 2003-2004 school year, or any year thereafter, and earned a standard Florida high school diploma, or students who are serving as active duty members in any branch of the United States Armed Services, will not be required to take the common placement test (P.E.R.T.) or to enroll in developmental education at any Florida College System institution, including Florida State College at Jacksonville (per Senate Bill 1720, State Board Rule 6A-10.0315). These students shall be considered exempt from common placement testing and developmental education instruction, and may accordingly enroll directly in ENC 1101 or ENC 1101C. For placement in any communications course beyond ENC 1101 or ENC 1101C, exempt students will be required to take the common placement test. Effective Fall 2022, students who earn a grade of C or higher will be automatically awarded the digital badge in Fundamentals of Written Communication. **Terms Offered:** Fall, Spring, Summer.

ENC 1101C - English Composition I Enhanced, Credit Hours: 4. *State Core course.* **Prerequisite(s):** Satisfactory score on the placement test for non-exempt students only. **Corequisite(s):** None. **Conditions:** This course fulfills category A of students' General Education requirements in Communications. The additional one-credit hour of supplemental instruction and practice will appear as an Associate in Arts elective on students' college transcripts. This course fulfills the Gordon Rule writing requirement and must be completed with a grade of C or higher pursuant to State Board of Education Rule 6A-10.030. Effective Spring 2014, students who entered the ninth grade in a Florida public high school in the 2003-2004 school year, or any year thereafter, and earned a standard Florida high school diploma, or students who are serving as active duty members in any branch of the United States Armed Services, will not be required to take the common placement test (P.E.R.T.) or to enroll in developmental education at any Florida College System institution, including Florida State College at Jacksonville (per Senate Bill 1720, State Board Rule 6A-10.0315). These students shall be considered exempt from common placement testing and developmental education instruction and may accordingly enroll directly in ENC 1101 or ENC 1101C. For enrollment in any communications course beyond ENC 1101/ENC 1101C, exempt students will be required to take the common placement test. This course is recommended for Associate in Arts degree seeking students. Associate in Science degree seeking students are advised to take ENC 1101 to avoid concerns regarding financial aid and excess hour surcharges. Effective Fall 2022, students who earn a grade of C or higher will be automatically awarded the digital badge in Fundamentals of Written Communication. **Terms Offered:** Fall, Spring, Summer.

General Education Humanities Courses

Complete one of the following courses.

ARH 2000 - Art in the Humanities, Credit Hours: 3. *State Core course.*

Prerequisite(s): Qualify for enrollment in ENC 1101. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule writing requirement and must be completed with a grade of C or higher pursuant to State Board of Education Rule 6A-10.030. **Terms Offered:** Fall, Spring, Summer.

HUM 2020 - Topics in the Humanities, Credit Hours: 3. *State Core course.*

Prerequisite(s): Qualify for enrollment in ENC 1101. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule writing requirement and must be completed with a grade of C or higher pursuant to State Board of Education Rule 6A-10.030. This course cannot be repeated for General Education or Elective Credit, regardless of the course topic, except for grade forgiveness purposes. **Terms Offered:** Fall, Spring, Summer.

LIT 2000 - Literature in the Humanities, Credit Hours: 3. *State Core course.*

Prerequisite(s): ENC 1101 or ENC 1101C each with a grade of C or higher. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule writing requirement and must be completed with a grade of C or higher pursuant to State Board of Education Rule 6A-10.030. **Terms Offered:** Fall, Spring, Summer.

MUL 2010 - Music in the Humanities, Credit Hours: 3. *State Core course.*

Prerequisite(s): Qualify for enrollment in ENC 1101. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule writing requirement and must be completed with a grade of C or higher pursuant to State Board of Education Rule 6A-10.030. **Terms Offered:** Fall, Spring, Summer.

PHI 2010 - Philosophy in the Humanities, Credit Hours: 3. *State Core course.*

Prerequisite(s): Qualify for enrollment in ENC 1101. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule writing requirement and must be completed with a grade of C or higher pursuant to State Board of Education Rule 6A-10.030. **Terms Offered:** Fall, Spring, Summer.

THE 2000 - Theatre in the Humanities, Credit Hours: 3. *State Core course.*

Prerequisite(s): Qualify for enrollment in ENC 1101. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule writing requirement and must be completed with a grade of C or higher pursuant to State Board of Education Rule 6A-10.030. **Terms Offered:** Fall, Spring, Summer.

General Education Mathematics Courses

Complete one of the following courses. **AT-CTI students must take a MAC-prefix course or MAP 2302 or STA 2023.**

MAC 1105 - College Algebra, Credit Hours: 3. *State Core course.*

Prerequisite(s): MAT 1033 with a grade of C or higher or a satisfactory score on the placement test. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). Effective Spring 2014, students who entered the ninth grade in a Florida public high school in the 2003-2004 school year, or any year thereafter, and earned a standard Florida high school diploma, or students who are serving as active duty members in any branch of the United States Armed Services, will not be required to take the common placement test (P.E.R.T.) or to enroll in developmental education at any Florida College System institution, including Florida State College at Jacksonville (per Senate Bill 1720, State Board Rule 6A-10.0315). These students shall be considered exempt from common placement testing and developmental education instruction, and may accordingly enroll directly in MAT 1033 or MGF 1130 or MGF1131. For placement in any college-credit math course beyond MAT 1033 or MGF 1130 or MGF1131, exempt students will be required to take the common placement test. This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

MAC 1105C - College Algebra Enhanced, Credit Hours: 5. *State Core course.*

Prerequisite(s): MAT 1033 with a grade of D or higher or MAC 1105 with a grade of D or lower or a satisfactory score on the placement test. **Corequisite(s):** None.

Conditions: This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). Effective Spring 2014, students who entered the ninth grade in a Florida public high school in the 2003-2004 school year, or any year thereafter, and earned a standard Florida high school diploma, or students who are serving as active duty members in any branch of the United States Armed Services, will not be required to take the common placement test (P.E.R.T.) or to enroll in developmental education at any Florida College System institution, including Florida State College at Jacksonville (per Senate Bill 1720, State Board Rule 6A-10.0315). These students shall be considered exempt from common placement testing and developmental education instruction, and may accordingly enroll directly in MAT 1033 or MGF 1130 or MGF 1131. For placement in any college-credit math course beyond MAT 1033 or MGF 1130 or MGF 1131, exempt students will be required to take the common placement test. This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

MAC 1114 - College Trigonometry, Credit Hours: 3. **Prerequisite(s):** MAC 1105 or MAC 1105C each with a grade of C or higher. **Corequisite(s):** None. **Conditions:** A strong high-school Algebra background is recommended. This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 1140 - Precalculus Algebra, Credit Hours: 4. **Prerequisite(s):** MAC 1105 or MAC 1105C each with a grade of C or higher or a satisfactory score on the placement test. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 1147 - Precalculus Algebra and Trigonometry, Credit Hours: 5. **Prerequisite(s):** MAC 1105 or MAC 1105C each with a grade of B or higher or satisfactory score on the placement test. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 2233 - Calculus for Business and Social Sciences, Credit Hours: 3. **Prerequisite(s):** MAC 1105 or MAC 1105C or MAC 1140 each with a grade of C or higher or a satisfactory score on the placement test. **Corequisite(s):** None. **Conditions:** Appropriate technology is required. This course does not satisfy degree requirements for students majoring in mathematics or engineering. This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 2311 - Calculus With Analytic Geometry I, Credit Hours: 4. *State Core course.* **Prerequisite(s):** MAC 1140 and MAC 1114 each with a grade of C or higher or MAC 1147 with a grade of a C or higher. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 2312 - Calculus With Analytic Geometry II, Credit Hours: 4. **Prerequisite(s):** MAC 2311 with a grade of C or higher. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAC 2313 - Calculus With Analytic Geometry III, Credit Hours: 4.

Prerequisite(s): MAC 2312 with a grade of C or higher. **Corequisite(s):** None.

Conditions: This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MAP 2302 - Differential Equations, Credit Hours: 3. **Prerequisite(s):** MAC 2312 with a grade of C or higher. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

MGF 1130 - Mathematical Thinking, Credit Hours: 3. *State Core course.*

Prerequisite(s): Satisfactory score on the placement test for non-exempt students. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule of Computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). Effective Spring 2014, students who entered the ninth grade in a Florida public high school in the 2003-2004 school year, or any year thereafter, and earned a standard Florida high school diploma, or students who are serving as active duty members in any branch of the United States Armed Services, will not be required to take the common placement test or to enroll in developmental education at any Florida College System institution, including Florida State College at Jacksonville (per State Board Rule 6A-10.0315). These students shall be considered exempt from common placement testing and developmental education instruction, and may accordingly enroll directly in MAT 1033 or MGF 1130 or MGF 1131, depending on their program of study requirement. For placement in any math course beyond MAT 1033 or MGF 1130 or MGF 1131, exempt students will be required to take the common placement test. **Terms Offered:** Fall, Spring, Summer.

STA 2023 - Elementary Statistics, Credit Hours: 3. *State Core course.*

Prerequisite(s): Satisfactory score on placement test or successful completion of MAT 1033 with a grade of C or higher. **Corequisite(s):** None. **Conditions:** This course fulfills the Gordon Rule computation requirement and must be completed with a grade of C or higher (pursuant to State Board of Education Rule 6A-10.030). **Terms Offered:** Fall, Spring, Summer.

General Education Natural Sciences Courses

Complete one of the following courses.

AST 1002 - Introduction to Astronomy, Credit Hours: 3. *State Core course.*

Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** Suggested course: AST 1002L (course may be taken following or concurrent with AST 1002L). This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

BSC 1005 - Life in Its Biological Environment, Credit Hours: 3. *State Core course.*

Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

BSC 2010C - Principles of Biology I, Credit Hours: 4. *State Core course.*

Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** This course fulfills the General Education Requirements and the laboratory requirement needed by many students who plan to transfer to a four-year institution. **Terms Offered:** Fall, Spring, Summer.

BSC 2085C - Human Anatomy and Physiology I, Credit Hours: 4. *State Core course.*

Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** High School Chemistry taken within the past five years. High School Biology taken within the past five years. This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

CHM 1020 - Chemistry for Liberal Arts, Credit Hours: 3. *State Core course.*
Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

CHM 2045C - General Chemistry and Qualitative Analysis I, Credit Hours: 4. *State Core course.* **Prerequisite(s):** MAC 1105 or MAC 1105C or higher-level MAC prefix course or MAP 2302, and CHM 1025C with a grade of C or higher. **Corequisite(s):** None. **Conditions:** Passing score on the Toledo Chemistry test may substitute for CHM 1025C prerequisite requirement. **Terms Offered:** Fall, Spring, Summer.

ESC 1000 - Earth and Space Science, Credit Hours: 3. *State Core course.*
Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

EVR 1001 - Introduction to Environmental Science, Credit Hours: 3. *State Core course.* **Prerequisite(s):** None. **Corequisite(s):** None. **Conditions:** This course fulfills the General Education Physical Science requirement. **Terms Offered:** Fall, Spring, Summer.

OCE 2001 - Survey of Oceanography, Credit Hours: 3. *State Core course.*
Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** TBA.

PHY 1020C - Physics for Liberal Arts with Laboratory, Credit Hours: 3. *State Core course.* **Prerequisite(s):** MAT 1033 or higher. **Corequisite(s):** MAT 1033 or higher. **Conditions:** This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

PHY 2048C - Physics I with Calculus, Credit Hours: 4. **Prerequisite(s):** MAC 2311. **Corequisite(s):** MAC 2312. **Conditions:** This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

PHY 2053C - General Physics I, Credit Hours: 4. *State Core course.*
Prerequisite(s): (1) MAC 1140 and MAC 1114; or (2) MAC 2311; or (3) MAC 1147 with a grade of C or higher. **Corequisite(s):** None. **Conditions:** This course may require proctored testing at an approved location. Students may be charged testing fees at off-campus and virtual testing locations. For additional information and resources, please see the College's Online Learning website. **Terms Offered:** Fall, Spring, Summer.

General Education Social and Behavioral Sciences Courses

Complete one of the following courses.

AMH 1010 - United States History to 1877, Credit Hours: 3. *State Core course.*
Prerequisite(s): Qualify for enrollment in ENC 1101. **Corequisite(s):** None. **Conditions:** Successful completion of this course satisfies the following Civic Literacy Competency Requirement: Prior to the award of an associate in arts or baccalaureate degree, first-time-in-college students entering a Florida College System institution in the 2018-2019 school year, and thereafter, must demonstrate competency in civic literacy (Florida Statute 1007.25, Section 4; State Board of Education Rule 6A-10.02413). **Terms Offered:** Fall, Spring, Summer.

AMH 2020 - United States History from 1877 to the Present, Credit Hours: 3. *State Core course.* **Prerequisite(s):** Qualify for enrollment in ENC 1101. **Corequisite(s):** None. **Conditions:** Successful completion of this course satisfies the following Civic Literacy Competency Requirement: Prior to the award of an associate in arts or baccalaureate degree, first-time-in-college students entering a Florida College System institution in the 2018-2019 school year, and thereafter, must demonstrate competency in civic literacy (Florida Statute 1007.25, Section 4; State Board of Education Rule 6A-10.02413). **Terms Offered:** Fall, Spring, Summer.

POS 2041 - American Federal Government, Credit Hours: 3. *State Core course.*
Prerequisite(s): Qualify for enrollment in ENC 1101. **Corequisite(s):** None. **Conditions:** Successful completion of this course satisfies the following Civic Literacy Competency Requirement: Prior to the award of an associate in arts or baccalaureate degree, first-time-in-college students entering a Florida College System institution in the 2018-2019 school year, and thereafter, must demonstrate competency in civic literacy (Florida Statute 1007.25, Section 4; State Board of Education Rule 6A-10.02413). **Terms Offered:** Fall, Spring, Summer.

Professional Courses

Complete all of the following courses.

ASC 1010 - Foundations of Air Transportation, Credit Hours: 3.
Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

ASC 1210 - Aviation Weather, Credit Hours: 3. **Prerequisite(s):** None. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

ASC 1310 - Aviation Regulations and Legal Issues, Credit Hours: 3.
Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

ASC 2560 - Unmanned Aerial Systems, Credit Hours: 3. **Prerequisite(s):** ATT 1101. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Spring.

ASC 2870 - Aviation Safety, Credit Hours: 3. **Prerequisite(s):** None. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall, Summer.

ATT 1101 - Private Pilot Theory, Credit Hours: 3. **Prerequisite(s):** None. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

ATT 1810 - Environment of the Air Traffic Controller, Credit Hours: 3.
Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

AVM 1440 - Aviation and Airport Security, Credit Hours: 3. **Prerequisite(s):** ASC 1010. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Summer.

AVM 2022 - Flight Operations Management, Credit Hours: 3.
Prerequisite(s): ASC 1010. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall.

AVM 2120 - Air Cargo Operations, Credit Hours: 3. **Prerequisite(s):** ASC 1010. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall.

AVM 2410 - Principles of Airport Management, Credit Hours: 3.
Prerequisite(s): ASC 1010 and AVM 1310. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Spring.

AVM 2510 - Aviation Management and Marketing, Credit Hours: 3.
Prerequisite(s): ASC 1010 and ASC 1310. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Summer.

Professional Elective Courses

Complete three of the following courses.

Aircraft Dispatcher students must take ATT 1120, AVM 2132C and AVM 2134C.

AT-CTI students must take ATT 2820. UAS Operator Certificate (when finalized) students must take ASC 2561 and ASC 2563C.

ASC 2561 - Unmanned Aerial Systems Operations, Credit Hours: 3.
Prerequisite(s): ASC 2560. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** As needed.

ASC 2563C - UAS Applications in Aerial Imaging, Credit Hours: 3.
Prerequisite(s): ASC 2560. **Corequisite(s):** None. **Conditions:** Students should have their FAA Remote Pilot License to enroll. **Terms Offered:** As needed.

ASC 2568 - UAS Power Systems and Batteries, Credit Hours: 3.
Prerequisite(s): None. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** TBA.

ATT 1120 - Instrument Rating Ground School, Credit Hours: 3.
Prerequisite(s): ATT 1102. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** As needed.

ATT 2820 - Air Traffic Control, Credit Hours: 3. **Prerequisite(s):** ATT 1810.
Corequisite(s): None. **Conditions:** None. **Terms Offered:** Fall.

AVM 2132C - Flight Dispatch Practical, Credit Hours: 3. **Prerequisite(s):** AVM 2134. **Corequisite(s):** None. **Conditions:** Students must successful pass the FAA Dispatcher knowledge exam and provide their passing score report to Program Manager prior to enrollment in this course. **Terms Offered:** As needed.

AVM 2134C - Flight Dispatching Theory, Credit Hours: 3. **Prerequisite(s):** ASC 1210 and ASC 1310 and ASC 2870 and ATT 1120. **Corequisite(s):** None.
Conditions: Students are required to complete this course and pass the FAA Aircraft Knowledge test prior to enrolling in the course Aircraft Dispatch Practical. Training fees (in addition to the cost of tuition) are required and must be paid in advance of the course start date. Training fees are based on the required minimum hours of instruction approved by the FAA for this course. Any additional training required beyond the FAA minimum is the financial responsibility of the student. **Terms Offered:** As needed.

CGS 1100C - Microcomputer Applications for Business and Economics, Credit Hours: 3. **Prerequisite(s):** None. **Corequisite(s):** None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

ECO 2013 - Economics I - Principles of Macroeconomics, Credit Hours: 3. *State Core course.* **Prerequisite(s):** Qualify for enrollment in ENC 1101.
Corequisite(s): None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

ECO 2023 - Economics II - Principles of Macroeconomics, Credit Hours: 3.
Prerequisite(s): Qualify for enrollment in ENC 1101. **Corequisite(s):** None.
Conditions: None. **Terms Offered:** Fall, Spring, Summer.

GEB 1011 - Introduction to Business, Credit Hours: 3. **Prerequisite(s):** None.
Corequisite(s): None. **Conditions:** None. **Terms Offered:** Fall, Spring, Summer.

INP 1390 - Human Relations in Business and Industry, Credit Hours: 3.
Prerequisite(s): Qualify for enrollment in ENC 1101. **Corequisite(s):** None.
Conditions: None. **Terms Offered:** Fall, Spring, Summer.

MAN 2043 - Quality Management, Credit Hours: 3. **Prerequisite(s):** None.
Corequisite(s): None. **Conditions:** None. **Terms Offered:** Fall, Spring.

Appendix K Metropolitan State University of Denver AT-CTI Degree Plan

Student ID: _____
Student Name: _____
Adviser Name: _____

Catalog: 2025-2026 Undergraduate Catalog
Program: Aviation and Aerospace Science (ASC) Major, B.S.
Minimum Credits Required: _____

Aviation and Aerospace Science (ASC) Major, B.S.

General Degree Requirements

Program Requirements

General Studies Requirements: 33 credits

Ethnic Studies & Social Justice Requirement: 0 or 3 credits

Aerospace Operations Concentration (ASC1): 62 credits

Required Courses: 59 credits

Course Name	Credits:	Term Taken	Grade	Gen Ed
AES 1010 - Introduction to Aviation and Aerospace Operations	Credits: 4			
AES 1040 - Introduction to Unmanned Aircraft Systems	Credits: 3			
or				
AES 1050 - Introduction to Space	Credits: 3			
AES 1400 - Aviation Weather	Credits: 3			
AES 1710 - Instrument Flight Simulation I	Credits: 3			
AES 2050 - Aviation and Aerospace History and Development	Credits: 3			
AES 2200 - Fundamentals of Air Traffic Control	Credits: 4			
AES 2220 - Flight Dispatch and Load Planning	Credits: 3			
AES 2607 - Introduction to Aerospace Systems Simulation	Credits: 3			
AES 2630 - Spacecraft Mission Operations I	Credits: 3			
AES 3600 - Space Flight Operations I	Credits: 3			
AES 3850 - Human Factors and Physiology of Flight	Credits: 3			
AES 3880 - Aviation Security	Credits: 3			
AES 4200 - Airport Planning and Management I	Credits: 3			
AES 4601 - Space Flight Operations II	Credits: 3			
AES 4602 - Aerospace Commercialization Operations	Credits: 3			
or				
AES 4210 - Airport Planning and Management II	Credits: 3			
AES 3620 - Aerospace Systems Project and Mission Scheduling	Credits: 3			
or				
AES 3630 - Spacecraft Mission Operations II	Credits: 3			
or				
AES 4603 - Aerospace Operations Systems Analysis and Design	Credits: 3			
AES 4860 - Aviation Safety	Credits: 3			
or				
AES 4870 - Aviation Safety Program Management	Credits: 3			
AES 4910 - Aviation and Aerospace Strategic Planning	Credits: 3			
BUS 1950 - Business Communication	Credits: 3			
or				
JMP 2610 - Introduction to Technical Writing	Credits: 3			

ASC1 Senior Experience: 3 credits

Course Name	Credits:	Term Taken	Grade	Gen Ed
AES 4930 - Professional Flight Standards Seminar	Credits: 3			
or				
JMP 4790 - Senior Seminar	Credits: 3			

Professional Flight Officer Concentration (ASC2): 75 credits**Required Courses: 72 credits**

Course Name	Credits:	Term Taken	Grade	Gen Ed
AES 1040 - Introduction to Unmanned Aircraft Systems	Credits: 3			
or				
AES 2050 - Aviation and Aerospace History and Development	Credits: 3			
AES 1100 - Private Pilot Ground	Credits: 4			
or FAA Private Pilot Certificate				
AES 1400 - Aviation Weather	Credits: 3			
AES 1500 - Private Pilot Flight Lab	Credits: 2			
or FAA Private Pilot Certificate				
or AES Elective				
AES 1710 - Instrument Flight Simulation I	Credits: 3			
or FAA Private Pilot Certificate				
AES 2120 - Instrument Pilot Ground	Credits: 4			
or FAA Instrument Rating				
AES 3130 - Commercial Pilot Ground	Credits: 3			
or FAA Commercial Certificate				
AES 2200 - Fundamentals of Air Traffic Control	Credits: 4			
AES 2220 - Flight Dispatch and Load Planning	Credits: 3			
AES 2500 - Instrument Pilot Flight Lab	Credits: 2			
or FAA Instrument Rating				
or AES Elective				
AES 2710 - Instrument Flight Simulation II	Credits: 3			
or FAA Instrument Rating				
AES 3000 - Aircraft Systems and Propulsion	Credits: 3			
AES 3520 - Commercial Single-Engine Flight Lab	Credits: 2			
or FAA Commercial Certificate				
or AES Elective				
AES 3530 - Aerodynamics	Credits: 3			
AES 3710 - Multi-Engine Flight Simulation I	Credits: 3			
or FAA Multi-Engine Rating				
AES 3850 - Human Factors and Physiology of Flight	Credits: 3			
AES 3880 - Aviation Security	Credits: 3			
AES 4040 - Aircraft Performance	Credits: 3			
AES 4370 - Advanced Navigation Systems	Credits: 3			
AES 4500 - Commercial Multi-Engine Flight Lab	Credits: 2			
or FAA Commercial Multi-Engine Rating				
or AES Elective				
or				
AES 4510 - Flight Instructor Flight Lab	Credits: 2			
or FAA Flight Instructor Certificate				
or AES Elective				
AES 4540 - FAA Instructor Certification-Ground School	Credits: 3			
or FAA Flight Instructor Certificate				
AES 4935 - Advanced Commercial Aircraft Systems	Credits: 4			

or FAA Airline Transport Pilot Certificate				
AES 4860 - Aviation Safety	Credits: 3			
AES 4910 - Aviation and Aerospace Strategic Planning	Credits: 3			
ASC2 Senior Experience: 3 credits				
Course Name	Credits:	Term Taken	Grade	Gen Ed
AES 4930 - Professional Flight Standards Seminar	Credits: 3			
Air Traffic Collegiate Training Initiative (AT-CTI) Concentration (ASC3): 78 credits				
Required Courses: 48 credits				
Course Name	Credits:	Term Taken	Grade	Gen Ed
AES 1100 - Private Pilot Ground	Credits: 4			
AES 1400 - Aviation Weather	Credits: 3			
AES 1710 - Instrument Flight Simulation I	Credits: 3			
AES 2120 - Instrument Pilot Ground	Credits: 4			
AES 2200 - Fundamentals of Air Traffic Control	Credits: 4			
AES 3220 - Aviation and Aerospace Law	Credits: 3			
AES 3850 - Human Factors and Physiology of Flight	Credits: 3			
AES 3880 - Aviation Security	Credits: 3			
AES 4100 - Advanced Air Traffic Control	Credits: 3			
AES 4200 - Airport Planning and Management I	Credits: 3			
AES 4210 - Airport Planning and Management II	Credits: 3			
AES 4230 - General and Business Aviation Operations	Credits: 3			
AES 4860 - Aviation Safety	Credits: 3			
AES 4870 - Aviation Safety Program Management	Credits: 3			
AES 4910 - Aviation and Aerospace Strategic Planning	Credits: 3			
AES Electives: 27 credits				
ASC3 Senior Experience: 3 credits				
Course Name	Credits:	Term Taken	Grade	Gen Ed
AES 4930 - Professional Flight Standards Seminar	Credits: 3			
Summary of Requirements				
Notes:				