

# Training tomorrow's aviation leaders, today

**ASU's aviation programs provide flight experience, industry exposure and technical training to prepare students for careers in the field**

By Joy Gaeraths, ASU News  
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Aviation is an industry defined by constant change. Technology evolves, demand shifts and global events reshape the landscape. Yet one thing remains the same: People still need to fly, and the industry relies on skilled professionals to keep operations safe and efficient.

The [aviation](#) programs offered at [The Polytechnic School](#), part of the [Ira A. Fulton Schools of Engineering](#) at Arizona State University, are designed to supply a pipeline of graduates to different areas of the industry.

The aeronautical management technology degree program provides four concentrations that will prepare students for careers in those fields.

Faculty members come to the table with extensive real-world experience, bringing industry insight directly into the classroom. For many students, that connection makes a meaningful difference.

Anna Ruffley, a senior studying aeronautical management technology in the air traffic management concentration, values the diverse backgrounds of the faculty.

"Every professor has a background in some field of aviation," Ruffley says. "Many were in the armed forces and made their way into the commercial world."

Learning from faculty members who have experienced the aviation workforce is helpful in giving insight to what the students may experience in the future.

## **The business of aviation**

The [air transportation management](#) concentration focuses on preparing students for leadership positions in the on-ground areas of the aviation industry, including management of air carriers or airports, airport planning and general aviation operations.

This concentration appeals to students who already hold a pilot's license and want a broader understanding of the industry, as well as those interested in aviation careers that are not limited by age or medical requirements.

Tony Pagnillo, who graduated in 2019 with an undergraduate degree in aeronautical management technology in the air transportation management concentration, credits the program for helping to shape his career path.

“The aviation-specific classes provided fantastic insight into many opportunities within the industry, but a lot of the value I found from the degree program came from some of the management classes,” Pagnillo says. “The business insights into people, hiring, training and how business operates really prepared me for my career track.”

Today, Pagnillo works as a lead aircraft maintenance planner for [Southwest Airlines](#).

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**John DeLugt**

Assistant teaching professor, air traffic management

## **From classroom to control tower**

The [air traffic management](#) concentration equips students with technical foundation in air traffic control procedures and also provides a strong background in aircraft operations, management skills and business principles specific to air traffic control. Required courses will help qualify students to earn their Airline Dispatcher Certificate and prepare them for the demands of an air traffic controller.

“Safety is the most important aspect of being a controller,” says [John DeLugt](#), assistant teaching professor in the air traffic management concentration who brings 25 years of experience as an Federal Aviation Administration, or FAA, en route controller. “Speaking like a controller is also an important skill to develop; pilots expect controllers to issue clearances clearly and concisely.”

ASU is one of 33 schools that is part of the FAA’s [Air Traffic Collegiate Training Initiative](#), or AT-CTI. It offers both tower and radar courses, while many programs offer tower instruction only. The recently enhanced AT-CTI program requires that the participating schools teach the same curriculum as the Air Traffic Control Academy in Oklahoma City. Upon graduating and meeting all evaluation requirements, students can select a placement location from an FAA provided list.

“I firmly believe that ASU can have a positive impact in addressing the nationwide controller shortage,” DeLugt says. “While the current iteration of the CTI program at ASU has already contributed to dozens of current controllers, with the updated equipment and the eventual certification, we should be able to add to that number significantly.”

## **Simulators, systems and a direct path to the airlines**

The [professional flight](#) concentration prepares students for careers as pilots through a combination of academic instruction, simulator training and flight experience.

“Our students learn the technical skills needed with the use of the hands-on training they receive in the multiple flight simulator courses they take, as well as the flight training through [AeroGuard](#), our flight training provider,” says [Greg Files](#), an assistant teaching professor and the chair of the aviation program.

He goes on to discuss the AMT 490 Regional Jet Operations capstone course where students conduct training in a Canadair Regional Jet, or CRJ, flight simulator and how this benefits students.

“The training follows the exact footprint that new hires receive at the regional airlines,” Files says. “This course is also taught by current pilots flying for the airlines.”

Shea Lisak, who graduated in 2025 with an undergraduate degree in aeronautical management technology in the professional flight concentration, says the course was valuable.

“In this class, we were trained by industry professionals to act as a crew in a regional jet simulator. This mimicked the real-world type certification training that we would go through when working for an airline,” Lisak says.

Students also benefit from pathway programs, such as [Destination 225° University Pathway](#) with Southwest Airlines and partnerships with carriers like [Allegiant](#), which offer insight and potential career connections.

## **From remote control to flight operations**

The concentration in [unmanned aerial systems](#), or UAS, focuses on one of the fastest growing areas in aviation. Students learn about drone operations, remote sensing, data collection and analysis. This concentration brings together the most up-to-date and relevant aspects facing industry today regarding flight system planning and operations and operating in a congested airspace.

The appeal of this program is the experience students get working with drones. In addition, the curriculum prepares them for the test taken to obtain a drone license. Some students are already licensed when they come into the class but will still benefit from the knowledge and experience with the equipment.

UAS is an industry that is tech heavy, where small teams can have a large impact. They can help deliver packages, provide aerial footage and help with dispensing chemicals and agricultural products.

## **Turning involvement into industry opportunity**

A common theme among aviation students is the importance of getting involved and networking — and the easiest way to do that is through student organizations.

[Women in Aviation International](#), or WAI, is a nationally recognized chapter at ASU that aims to support and connect members of the aviation community to seek out professional development and networking opportunities. They have semi-regular meetings and try to have events monthly that include study nights, plane spotting, tower tours and field trips.

“WAI on campus was important to my ASU experience both professionally and socially,” Lisak says. “Being a part of a community of individuals with similar aspirations allowed me to learn from and mentor others while developing friendships. It also gave me the opportunity to network and learn through events partnered with professional aviation companies and pilots.”

The [Drone Devils](#) is a student organization on campus that gives those interested in drones a chance to work directly with equipment and explore its impact on communities. One recent project involved teaching high school students how to build and use drones, followed by a campus visit where they could test their knowledge. Both groups benefited from the collaboration.

“In the past, the students just wanted to fly remote-controlled airplanes and now, they are more interested in building the drones,” says [Tony Wende](#), assistant teaching professor in the aviation program and faculty advisor of the Drone Devils.

## More than a program, a complete path to success

Unlike standalone aviation schools, ASU offers students access to the broader university experience alongside their technical training.

“ASU gives you the total college experience,” Wende says. “You can take a break and go to a game where other institutions that specialize in aviation may not have access to that.”

Students point to the support they receive from faculty as a defining part of the program.

“All faculty have been super willing to help students in need, and they truly do want everyone to succeed,” Ruffley says. “When people ask me what one of my favorite parts of the program is, I almost always say the professors.”

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*This story originally appeared on [ASU News](#).*

## Main image



Aviation students work with an air traffic control simulator on ASU's Polytechnic campus. Photo by Armand Saavedra/ASU

**Text image(s)**





ASU professional flight students stand in front of a Cessna 172 airplane at Chandler Regional Airport, where flight provider, AeroGuard is located. Photo by Erika Gronek/ASU



Aviation students work on model airplanes in a lab inside the simulator building on ASU's Polytechnic campus. Photo by Erika Gronek/ASU