

# Career: Airline Transport Pilot (ATP)

Airline pilots fly passenger and cargo planes for regional and national airlines.

An airline pilot is responsible for flying passengers and other crew members from one destination to another. They are required to navigate the flight path of the aircraft using specialized equipment and control all other aspects of the plane's movement. In the cockpit, the captain (pilot in command) and the first officer (second in command) work as a team to ensure a safe flight from vehicle inspection and flight logs to precise coordination for takeoff and landing.

Airline pilots operate multi-engine aircraft, which requires a great deal of technical knowledge. They are responsible for handling the plane through inclement weather and must react to any mechanical problems that occur while in flight. Airline pilots have to communicate with air traffic controllers and use radar to understand their flight path.

## Education:

Most major airlines require a bachelor's degree

## Training:

You must earn these licenses and ratings:

- Private pilot license
- Instrument rating
- Commercial pilot license
- Flight instructor certification (not required, but very helpful)
- Complex aircraft endorsement
- High performance aircraft endorsement
- Multi-engine rating
- ATP certification

The fastest way to earn these requirements is to train at a flight school or aviation academy. Some colleges offer programs that provide the flight training and degree at the same time.

Ongoing training is also required, and is usually provided by the airline.

## Experience:

Required: 1500 hours of flight time to qualify for airline training programs

## Other Requirements:

Pilots must pass frequent medical examinations, including general health and mental health, and have vision that can be corrected to 20/20.



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# Career: Commercial Pilot

Commercial pilots (non-ATP) fly airplanes and helicopters for a variety of clients and tasks:

- *Corporate/executive pilots* fly private jets and other planes for company executives or private employer.
- *Charter pilots* transport small groups of people in a privately rented airplane.
- *Crop dusters* fly very low to spray chemicals onto farm fields.
- *Surveying pilots* fly carefully mapped routes to observe things on the ground. For example, they might fly along pipelines to observe the condition of the pipes. Others might carry scientific equipment used for mapping, ground penetrating radar, etc.
- *Aerial photographers* take pictures from the air, or fly the airplane while a photographer takes the pictures.
- *Scenic flight pilots* take customers for sight-seeing flights.
- *Medical transport pilots* carry patients from accidents and between hospitals.
- *Firefighting pilots* work to put out wildfires. Some transport firefighters to hard-to-reach areas, and some fly planes that drop water onto the fires. Some rescue people stuck in remote locations.
- *Police pilots* fly airplanes or helicopters to monitor drivers, track fugitives, and perform other law enforcement duties.
- *News pilots* fly helicopters to monitor traffic conditions and respond to breaking news stories.
- *Drone pilots* fly unmanned aircraft for photography, surveying, and other work.

## Education:

A bachelor's degree can be helpful

## Training:

You must earn these licenses and ratings:

- Private pilot license
- Instrument rating
- Commercial pilot license

Further training and endorsements will be needed depending on the type of aircraft being flown. The fastest way to earn these requirements is to train at a flight school or aviation academy. Some colleges offer programs that provide the flight training and degree at the same time.

## Experience:

Minimum of 250 hours of flight time.

## Other Requirements:

Pilots must pass frequent medical examinations, including general health and mental health, and have vision that can be corrected to 20/20.



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# Career: Flight Attendant

A flight attendant is someone who helps ensure the safety, security and well being of a flight's crew and passengers. They keep both crew and passengers on flights safe and comfortable. Some of the specific responsibilities that the job entails includes:

- Explaining safety procedures and providing instructions on how to use emergency devices.
- Ensure that passengers are following all safety protocols.
- Assist in helping passengers store carry-on baggage.
- Provide special assistance to individuals in need, like seniors and people with disabilities.
- Generally provide great service and hospitality to guests.
- Provide assistance during emergencies.

## Education:

High school diploma or GED

## Training:

Training is provided by the airline to earn an FAA-issued Certificate of Demonstrated Proficiency.

## Experience:

Customer service experience



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# Career: Aircraft Mechanic

Aircraft mechanics, called Aviation Maintenance Technicians (AMTs) or Airframe and Powerplant Mechanics (A&Ps), provide maintenance and repair services for aircraft. They ensure that all of the mechanical components of an aircraft meet operational and safety requirements. The typical responsibilities for an aircraft mechanic include:

- Inspecting aircraft systems
- Diagnosing operational issues
- Measuring aircraft parts
- Interpreting manuals
- Completing repairs
- Cleaning mechanical parts
- Updating maintenance records

## Education:

High school diploma or GED

## Training:

Aviation Maintenance Technician School (18-24 months for certification)

## Experience:

Mechanical, aviation, and shop experience are helpful

## Other Requirements:

Pass the FAA certification exams



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# Career: Avionics Technician

Avionics Technicians perform a wide range of tasks within the fields of electronic maintenance and repair for aircraft. They are responsible for the electronic parts within an aircraft and all the wiring that connects the components to the electrical system. They ensure all parts and wires work, both individually and together, to guarantee the integrity of the aircraft. Avionics technicians make sure that the components are clean, in good repair, and functioning properly to guarantee the safety of the passengers and crew aboard an aircraft. On a daily basis, an avionics technician might install new equipment, troubleshoot malfunctioning avionics machinery, and clean soiled components. They are also in charge of wiring navigational components, autopilot systems, and passenger entertainment devices.

## Education:

Associates degree in electronics is recommended

## Training:

FAA-approved avionics technician certification

## Experience:

Electronics and aviation experience are helpful

## Other Requirements:

Pass the FAA certification exams



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# Career: Certified Flight Instructor (CFI)

A CFI is a pilot who has been trained specifically on how to teach people to learn to fly. CFIs must have the appropriate FAA certificate and may also earn additional certification as a instrument instructor (CFII) or multiengine instructor (MEI).

## Education:

Most major airlines require a bachelor's degree

## Training:

You must earn these licenses and ratings:

- Private pilot license
- Instrument rating
- Commercial pilot license
- Flight instructor certification
- Complex aircraft endorsement (helpful)
- High performance aircraft endorsement (helpful)
- Multi-engine rating (helpful)

The fastest way to earn these requirements is to train at a flight school or aviation academy.

## Experience:

Required: 250 hours of flight time minimum

## Other Requirements:

Pilots must pass regular medical examinations, including general health and mental health, and have vision that can be corrected to 20/20.



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# Career: Travel Agent

Travel agents offer advice on destinations, plan trip itineraries, and make travel arrangements for clients. They sell transportation, lodging, and admission to entertainment activities to individuals and groups.

Travel agents need a minimum of a high school diploma to work in their field. Knowledge and certifications related to the services they are selling, such as how to use specific reservation systems and computer programs, may be required for certain positions. Personal familiarity with travel helps as well. In addition, some states may require a business license to sell travel products.

## Education:

Associates or bachelors in tourism is helpful

## Training:

Optional certification available

## Experience:

Hospitality, customer service, and marketing experience is helpful



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# Career: Line Service Technician

An line service technician (also called a lineman) is a support person based at an airport. They are sometimes called ground crew. The lineman might have a variety of duties, including fueling aircraft, deicing aircraft, directing airplanes for parking, routine cleaning and maintenance, safety procedures, driving baggage trucks, loading aircraft, and customer service.

## Education:

High school diploma or GED

## Training:

Certification might be required for specific responsibilities

## Experience:

Aviation and customer service experience are helpful.



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# Career: Airport Manager

An airport operations manager is responsible for supervising the daily operations of an airport. Job duties involving airport operations are similar throughout North America whether the facility is a small municipal airport or an international hub. They are responsible for the financial and business aspects of the airport as well as daily operations and facilities upkeep and growth. The manager also deals with emergencies and problems such as closed runways, runway hazards, inoperable radio navigational aids, and extreme weather conditions.

Extensive knowledge of Federal Aviation Administration (FAA) rules and regulations is required. Extensive knowledge of airport emergency and security procedures and a good working relationship with companies based at the airport are essential. Knowledge of weather conditions is critical. Fluent use FAA/aviation language is necessary.

## Education:

Minimum: Bachelors degree in business administration or an aviation-related field

Suggested: Master's degree

## Experience:

Management experience required

Business administration experience required

Aviation experience required



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# Career: Aeronautical Engineer

An aeronautical engineer designs aircraft and missiles. They study aerodynamics and use their expertise to guide the manufacturing, construction and maintenance of aircraft. The aircraft they design can be for commercial, government and military use. As an aeronautical engineer, you would be responsible for:

- Designing reliable and efficient aircraft and aeronautical machines for clients
- Addressing issues that arise during the manufacturing process of the aircraft
- Ensuring that your aircraft meets the environmental and safety requirements
- Inspecting existing aircraft and making suggestions for improvements

## Education:

Minimum: Bachelors degree in aeronautical engineering

Suggested: Master's degree

## Training:

After earning a bachelors degree, complete four years of practical training before taking the Professional Engineer exam.

## Experience:

Internships are very helpful



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# Career: Aircraft Manufacturing Technician

Most aircraft manufacturing technicians spend their days working with machinery. They might assemble parts, run automated factory machinery, and repair things like automated welding machines, injection molding machines, CNC machines, and highly automated factory cells.

While the official day to day duties can depend on the area of expertise, the following tasks are common:

- Monitoring and checking product quality
- Setting up and operating different machines
- Ensuring all systems are safe and in working order
- Keeping maintenance logs
- Providing regular incident reports and update reports
- Gathering data for the manufacturing process
- Repairing and installing machinery

## Education:

Associates degree or vocational-technical school certificate

## Training:

Apprenticeships often available

## Experience:

Broad knowledge of machinery and mechanical systems



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# Career: Air Traffic Controller

Air traffic controllers coordinate the movement of aircraft to maintain safe distances between them. Air traffic controllers work in control towers, approach control facilities, or enroute centers. Their work can be stressful because maximum concentration is required at all times.

Controllers typically need an associate's or a bachelor's degree from the Air Traffic Collegiate Training Initiative program, several years of progressively responsible work experience, or a combination of education and experience. They also must be a U.S. citizen, submit to medical and background checks, and complete training at Federal Aviation Administration (FAA) academy.

## Education:

Associate's or bachelor's degree

## Training:

FAA academy certification



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# Career: Meteorologist

Meteorologists are weather scientists. Meteorologists monitor the skies, searching for meaningful data. They are experts on the solids, liquids and gases contained within the Earth's atmosphere and can predict how those substances will interact with one another.

## Education:

Minimum: Bachelor's degree

Suggested: Master's degree or PhD

Areas to study: meteorology, math, natural science, physics, statistics

## Experience:

College internships are very helpful



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# Career: Astronaut

Astronauts fulfill different roles when carrying out space missions. The commander is the person in charge who ultimately makes the most important decisions on a space mission. The pilot works closely alongside the commander. Other astronauts take on the role of mission specialist, in which they utilize special skills or a specific area of knowledge.

Astronauts also perform many mundane tasks to keep space stations running. The crew cleans and checks equipment and repairs things that have broken. They spend two hours every day exercising, too, in order to keep up with the physical demands of the job.

## Education:

Minimum: Master's degree in a STEM field

## Training:

Two years of NASA training

Scuba certification

Military land and water survival training

To be a pilot on a space mission, you must have at least 1,000 hours of pilot-in-command time on a jet aircraft or have completed a test pilot program

## Experience:

Military experience is helpful

## Other Requirements:

Pass NASA physical



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# Career: Military Pilot

Military pilots fly airplanes, helicopters, or drones for the Air Force, Army, Navy, Air National Guard, or Coast Guard. Some of the types of military pilots include:

- Fighter pilots
- Troop transport pilots
- Cargo pilots
- Surveillance pilots

## Education:

Minimum: bachelor's degree

## Training:

Aviation training through your branch of the military.

## Experience:

Previous flight experience is helpful.

## Other Requirements:

Must join the branch of the military and go through officer selection and training.



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