Aviation and Aerospace



Morris Hills Regional District
October 2026

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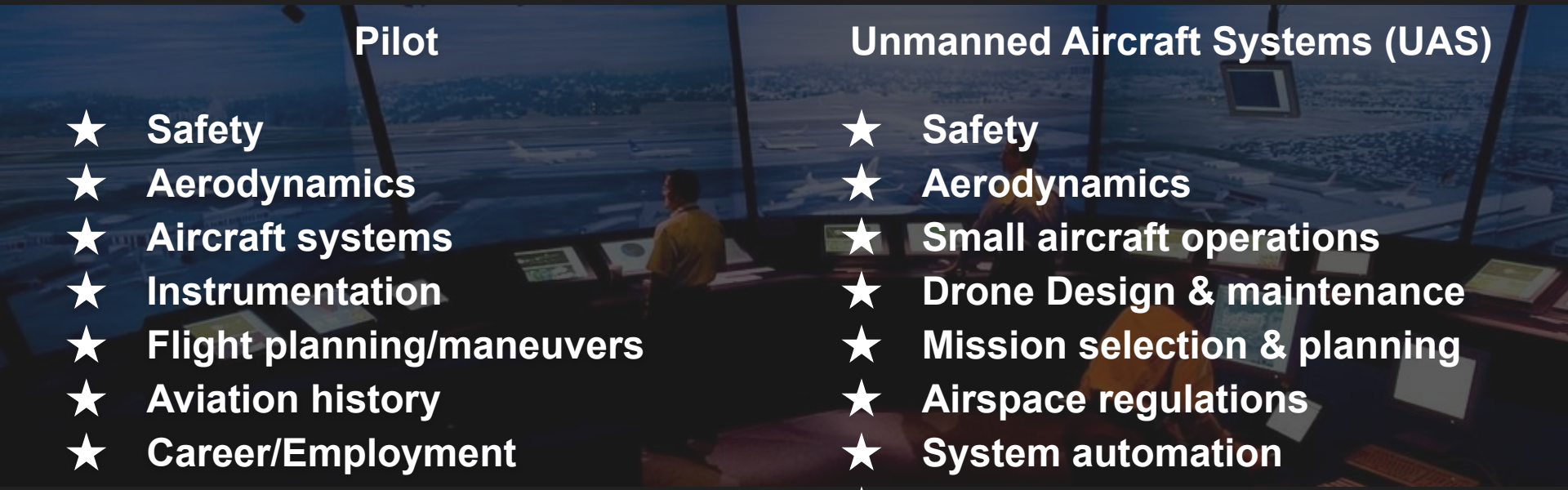


Why Aviation?

New hands-on STEM curriculum from the Aircraft Owners & Pilots Association (AOPA)

- From 2025 to 2035, the BLS predicts 8% growth in aviation-related careers
- By 2040, over 612,000 jobs will be available in the aviation industry as current employees retire.
- Not just pilots!
  - The Aviation & Aerospace Industry encompasses a variety of career pathways in STEM
- You Can Fly! Initiative offers industry partnerships, scholarship opportunities, and a direct path from high school to postsecondary studies

Career Pathways & Topics



Pilot

- ★ Safety
- ★ Aerodynamics
- ★ Aircraft systems
- ★ Instrumentation
- ★ Flight planning/maneuvers
- ★ Aviation history
- ★ Career/Employment opportunities
- ★ Flight Simulator Training

Unmanned Aircraft Systems (UAS)

- ★ Safety
- ★ Aerodynamics
- ★ Small aircraft operations
- ★ Drone Design & maintenance
- ★ Mission selection & planning
- ★ Airspace regulations
- ★ System automation
- ★ Programming & Ethics
- ★ Career/Employment opportunities

Career Focused Events - Make the Connection

Career Connections









Aviation & Aerospace at MHRD

- MHRD offers a 3-course aviation sequence
  - Opportunities for additional STEM electives to build your resume!
- There are no prerequisites: any interested student may sign up for the program
- The program will prepare students with the prerequisite knowledge to take the FAA Written Pilot Test early in the program, which leads to additional scholarship opportunities
- Students will gain FAA Part 107 Certification









Courses

Course 1
Introduction to Aviation

Course 2
Advanced Aviation

Industry Credential: FAA Private Pilot (written)

Course 3
Drone and UAS Technology

Industry Credential: FAA Part 107 Remote Pilot Certification (written)

Community Partnerships/Collaborations

- ➔ Aviation Explorer Post at Morristown Airport
- ➔ Civil Air Patrol
- ➔ Morristown Airport
- ➔ American Airlines Cadet Program
- ➔ Mercer County Community College
- ➔ United States Navy
- ➔ United Parcel Service
- ➔ Warren County College
- ➔ Denville PD
- ➔ FedEX
- ➔ CAE
- ➔ And so many more!



Course 1: Introduction to Aviation



- Course topics include:
  - Get to Know Your Aircraft
  - How Aircraft Are Made
  - Taking Flight- Early Aviation Innovations
  - Avionics and Instruments
  - Stability and Control
  - Propulsion
  - Airframe Systems
  - Understanding Air
  - Forces of Flight

Other Notes:

Common Assessment 1
Forces of Flight Test

Common Assessment 2
Final Checkrides

Field Trips
EWR - FedEX Hub
MUA- Morristown Airport (operations)

Various Guest Speakers

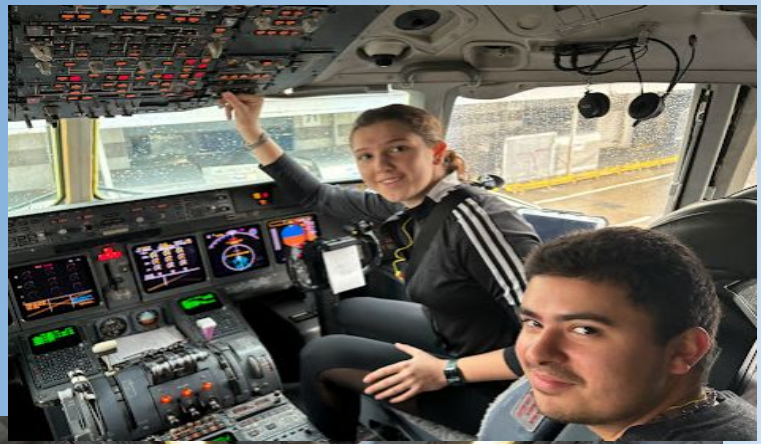
FedEX EWR







FedEX EWR









Pathway Course: Advanced Aviation



- Course topics include:
  - Aviation Weather Theory
  - Aviation Weather Services
  - Airport Operations
  - Introduction to Aeronautical Charts and Airspace
  - Navigation: Plotting, Pilotage, Paperwork
  - Aircraft Performance
  - Aeromedical Factors: Am I Safe to Fly?
  - FAA Regulations Review

Other Notes:

Common Assessment 1
Unit 1 - 4 Test

Common Assessment 2
Cross-Country Checkrides

Field Trip
CAE

Various Guest Speakers

Pathway Course: Drone and UAS Technology

- Course topics include:
  - Advanced Aviation
  - Search and Rescue
  - Responsible / Ethical Flight
  - The Future of Aviation
  - Remote Operations
  - Remote Flight with UAS
  - Digital Photogrammetry



Other Notes:

<u>Common Assessment 1</u>
Unit 1-3 Exam

<u>Common Assessment 2</u>
Research Paper

<u>Field Trips 25-26</u>
Warren County Community College

Morristown Airport

Drone Competition/ Career Fair

Aviation & Aerospace Courses



- Developed by the AOPA
- Aligned to the NGSS
- Project Based Learning
- Test Prep Software for Part 107

MHRD

What is the Commercial Pilot Pathway?

- Private Pilots License
- Instrument Rating
- Commercial Single Engine
- Commercial Multi-Engine
- Certified Flight Instructor (CFI)
- Certified Flight Instructor Instrument (CFII)
- Commercial Pilot (about 1500 hours)





MAJOR AIRLINE PILOT SALARIES

ANNUAL PAY BY EXPERIENCE LEVEL

AIRLINE	First Officer (Year 1)	Captain (Year 6)	Captain (Year 12)
American Airlines	$113,476	$323,039	$338,096
DELTA	$113,476	$321,594	$336,365
UNITED	$116,621	$327,922	$342,997
Alaska	$119,245	$323,143	$338,212
Southwest	$125,731	$316,803	$338,595
FedEx	$82,690	$287,566	$300,859
ups	$65,275	$370,216	$387,454
FRONTIER	$97,000	$332,233	$348,550
avelo AIRLINES	$117,900	$240,300	$268,200
suncountry airlines	$105,919	$220,966	$271,285

Salaries based on publicly available data as of 2024 for 72–85 flight hours per month (varies by airline).

AVIATION CAREERS TAKE FLIGHT

Competitive salaries and strong opportunities across major airlines.

Who?

- Private Pilot
- UAS (Drone) Pilot
- Military Pilot
- Commercial Pilot
- Air Traffic Controller
- Aircraft Technician
- Engineer
- Astronaut
- Entrepreneur
- Airport Management
- Flight Instructor



Aviation Scholarships

There are many organizations across the country that offer aviation-related scholarships. Browse our list of resources to learn more.

- AAERO Scholarship
- AeroClub of New England's Scholarship Program
- Airline Dispatchers Federation Scholarships (ADF)
- Air Traffic Control Association (ATCA) Scholarship Program
- Aircraft Electronics Association (AEA)
- Aircraft Owners and Pilots Association (AOPA)
- Amelia Earhart Memorial Scholarships & Awards
- Astronaut Scholarship Foundation
- AvScholars.com
- Boeing Scholarships
- Epic Flight Academy Aviation Scholarship
- Experimental Aircraft Association (EAA) Scholarships
- LeRoy W. Homer Jr. Scholarship
- Michigan Takes Flight Training Scholarship Program
- National Coalition for Aviation Education (NCAE)
- United States FAA 2019 Commercial Pilot (H) Scholarship
- University Aviation Association (UAA)
- Women in Aviation International (WAI)





We are the Morris Hills Regional District, Come Learn to Fly with Us!

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More information can be found online at www.mhrd.org (click on Curriculum and then Academic Programs)

