Introducing the AOPA Foundation High School Aviation STEM Curriculum
Who We Are

AOPA Foundation
Philanthropic arm of AOPA

AOPA
Largest aviation community in the world
You Can Fly!
Initiatives

Discovering Aviation
High Schools

Learning to Fly
Flight Training

Sustaining Engagement
Flying Clubs

Returning to Aviation
Rusty Pilots
Does this look familiar?
Pilot and Technician Outlook
2023–2042

2.3 M NEW PERSONNEL

649 K NEW PILOTS
690 K NEW TECHNICIANS
938 K NEW CABIN CREW

North America
New Personnel: 429 K
Pilots: 127 K
Technicians: 125 K
Cabin Crew: 177 K

3.5% Fleet Growth
48,575 2042 Fleet
6.1% Traffic Growth
2.6% GDP Growth
Aerospace STEM Careers

If you can think of a career, it exists in the aerospace industry.
AOPA Foundation High School Aviation STEM Curriculum

FREE Four-year STEM curriculum in Pilot and Unmanned Aircraft Systems pathways

High-demand aerospace careers
Built for teachers by teachers and pilots

Industry-recognized stackable credentials and industry certifications
Rigorous, comprehensive, flexible, and FREE
What’s Included?

Everything a teacher needs to provide engaging instruction from day one.

Lesson Plans

Presentations
What’s Included?

Everything a teacher needs to provide engaging instruction from day one.

Student Activities

Assessments

Teacher Notes & Rubrics
Key Features of the Lessons

- Turnkey Design
- 5E Lesson Format
- Easy Access
- Benchmarks and Competencies
- National Standards
- CTE Content
Course Structure

- Semesters
- Units
- Sections
- Lessons
### Course Menu

#### "Grade 9" Course
**Topics**
- Introduction to Aviation
- Aerospace History
- Engineering Design

#### "Grade 10" Course
**Topics**
- Forces of Flight
- Aircraft Systems
- Aircraft Performance

#### "Grade 11" UAS Course
**Topics**
- Weather, Airspace
- Drone Operations

#### "Grade 11" Pilot Course
**Topics**
- Weather, Airspace
- Flight Planning

#### "Grade 12" Pilot Course
**Topics**
- Instrument Flight
- Advanced Aircraft
- Future of Aerospace

#### "Grade 12" UAS Course
**Topics**
- Advanced Missions
- Advanced Drone Tech
- Future of Aerospace

#### Aviation Career Preparation Course (semester)
**Topics**
- General and Aviation Career Skills
- Workforce Success Preparation
CTE Topics

“Grade 9” Course
Aviation STEM career exploration

“Grade 10” Course
Research and apply for school-to-work opportunities

“Grade 11” Pilot and UAS Courses
Resume
Cover letter
Letters of recommendation
Entrance essays

“Grade 12” Pilot and UAS Courses
Aviation business plan
Response to DARPA RFI
CTE capstone project

Aviation Career Preparation Course (semester)
Plotting your Career Course
Safety and the Workplace
Professionalism and Soft Skills
Organizational Behavior and Practice
High School by the Numbers

Students by School Year

- 2017-18: 700 students
- 2018-19: 2,500 students
- 2019-20: 5,000 students
- 2020-21: 8,000 students
- 2021-22: 12,000 students
- 2022-23: 16,000 students
- 2023-2024: 22,700 students

471 programs
23,000 students this year
1,000 schools served
47 states and DC
82 colleges in 21 states offer college credit

More than 71,000 students served since 2017
School Demographics 2023-24

**SCHOOL LOCATIONS**
- 40% Rural
- 41% Suburban
- 19% Urban

**TITLE I STATUS – POVERTY LEVEL**
- 55% Not Title I
- 45% Schoolwide Title I

**SCHOOL TYPES**
- 80% Public
- 12% Private
- 5% Charter
- 3% Other
Student and School Demographics 2023-24

GENDER
- Male: 77%
- Female: 23%

ETHNICITY
- 58% White
- 18% Hispanic
- 13% African American
- 5% Asian
- 6% Other
Postsecondary Expectations

More than 2,100 Graduates since 2021-2022

All Graduate Career Intentions
- Aviation Careers 60%
- Other Careers 40%

Aviation Graduate Career Intentions
- Pilots 42%
- Engineering 28%
- Maintenance 14%
- Other Aerospace 16%

Post Graduate Education Plans
- College 64%
- Trade/Tech 12%
- Work 10%
- Other/Unknown 6%
- Military 8%

Aviation Graduate Career Intentions
- Other Careers 40%
- Aviation Careers 60%
- Other 16%
6,166 Student Aviation Milestones

Since September 2021

3,821 Started Flight Training
606 FAA Private Pilot Knowledge Test
178 Private Pilot Certificate

849 FAA Remote Pilot Knowledge Test
38 FAA Instrument Rating Knowledge Test
21 FAA Instrument Rating
Who can teach the Curriculum?
You do NOT need to be a pilot!

Any certified teacher is qualified

Interest
Willingness
Passion

In-person training
Virtual training
Ongoing support
Inspiring Teachers as well as Students

Just one teacher’s story

Cindy Martin

Private Pilot Certificate

Flight Training Scholarships
AOPA Foundation’s Commitment to You
Our donors help keep the program free

FREE

- Teacher training
- Program planning and support
- Continuing education units from ERAU
- Ongoing teacher and program support
- State course approval support
- Networking opportunities
School Commitments to the AOPA Foundation

- School Support
- High School Credit
- Teacher
- Fidelity
- Data Collection
- Class Size
Application Process

POINT OF CONTACT completes the online application

TEACHERS complete a Teacher Information Form and sign an agreement

SCHOOL AND DISTRICT ADMINISTRATORS sign an agreement

ACCESS GRANTED to curriculum and PD sites
Applications for 24-25

NEW PROGRAM?
APPLICATIONS ARE OPEN!

HTTPS://AOPA.org/apply
FREE PROFESSIONAL DEVELOPMENT WORKSHOP

FOR HIGH SCHOOL TEACHERS, COUNSELORS, & ADMINISTRATORS.

Limited spaces available • Breakfast and lunch included • Hands-on activities • Offsite tours

Spring-Summer 2024

Paid In-Person Training Sessions ($300 + travel)

April 17-19 Kentucky
May 8-10 Kentucky
Week of June 3 Oklahoma

LEARN HOW TO PREPARE YOUR STUDENTS FOR AEROSPACE STEM CAREER SUCCESS

WHY ATTEND

• Discover innovative teaching methods while you deep dive into our free Aviation STEM curriculum.
• Engage in structured hands-on activities that bring aviation STEM concepts to life.
• Connect with like-minded educators, exchange ideas, and build new relationships with long-lasting impacts.
• Explore potential collaborations with other schools and districts to enrich your curriculum and make learning more exciting for your students.

JOIN US! REGISTER NOW IT’S FREE

TWO LOCATIONS

West Coast
January 23-25, 2024
Hilton Seattle Airport & Conference Center
Seattle, WA

East Coast
February 6-8, 2024
Aerospace Center for Excellence
Lakeland, FL

QUESTIONS? Email us at hs@aopa.org

NOTE: Transportation, hotel, and other travel-related costs are the attendee’s responsibility.
FREE ONE-DAY EVENT!

INTRODUCING THE KENTUCKY AVIATION CAREER PREPARATION CURRICULUM

February 20, 2024
8:30 a.m. – 1:30 p.m. EST

At

The Aviation Museum of Kentucky
Lexington, Kentucky

RSVP:
AOPA.org/Kentucky
You Can Fly | High School Aviation STEM Symposium

Presented by Boeing

November 17-19, 2024
Hyatt Regency Atlanta | 265 Peachtree St NE | Atlanta, GA

THE YEAR’S MOST IMPACTFUL HIGH SCHOOL STEM SYMPOSIUM

aopa.org/symposium
FLIGHT TRAINING SCHOLARSHIPS

Opening date: September 9, 2024
Application Deadline: February 7, 2025, 11:59 p.m. EST

Scholarships are funded by generous donations to the AOPA Foundation.
Next Steps

Apply for the Curriculum

Curriculum: Learn More

Contact Us

STEM Symposium

High School Initiative
Ensuring the Future of General Aviation through STEM Education
Questions?

hs@aopa.org
## Multiple Aviation Pathways

<table>
<thead>
<tr>
<th>CAREER STRAND</th>
<th>GRADE 9</th>
<th>GRADE 10</th>
<th>GRADE 11</th>
<th>GRADE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT</td>
<td>AOPA Grade 9 Course</td>
<td>AOPA Grade 10 Course</td>
<td>AOPA Grade 11 Pilot Pathway</td>
<td>AOPA Grade 12 Pilot Pathway</td>
</tr>
<tr>
<td>UAS PILOT</td>
<td></td>
<td></td>
<td>AOPA Grade 11 UAS Pathway</td>
<td>AOPA Grade 12 UAS Pathway</td>
</tr>
<tr>
<td>AIRCRAFT MAINTENANCE</td>
<td>AOPA Grade 9 Course</td>
<td>AOPA Grade 10 Course</td>
<td>Choose Aerospace Course Year 1</td>
<td>Choose Aerospace Course Year 2</td>
</tr>
</tbody>
</table>