



# HIGH SCHOOL AVIATION INITIATIVE INFORMATIONAL RESOURCES



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## INTRODUCTION

- Two-page [white paper and general information sheet](#)
- [National, local, and industry media stories](#) about the Initiative and Curriculum
- [The High School Curriculum by the Numbers: 2021-2022 Edition](#), with Curriculum use statistics
- [The Curriculum Introduction PowerPoint presentation](#) about the Curriculum for use in stakeholder presentations and [a PDF copy of the Curriculum Introduction PowerPoint presentation](#)
- A short (under five minute) [video intro](#) [Introducing the AOPA Foundation High School Aviation STEM Curriculum](#)
- You Can Fly awarded STEM.org [Accredited Educational Program and Reviewed Education Media](#) Trustmarks

## PDF AND PRINT RESOURCES

- [HS Initiative brochure](#)
- [This document \(High School Aviation initiative Informational Resources\)](#)
- [Curriculum Structure and Course Descriptions](#)
- [Boeing Pilot and Technician Outlook 2021-2040](#)

## WEBSITES

- [High School Initiative website](#) and [High School Curriculum website](#)
- [2022 FedEx AOPA Foundation High School Virtual Aviation STEM Symposium presented by Boeing](#)
- [High School Teacher and Student Flight Training Scholarships](#)
- Free student membership to AOPA through the [AOPA AV8Rs Program](#)

## ACCESSING SAMPLE CURRICULUM RESOURCES

- Go to <http://aopa.org/curriculum>. Scroll to the COURSE DESCRIPTIONS section and click on the course titles.

## VIDEOS

- [Video intro Introducing the AOPA Foundation High School Aviation STEM Curriculum](#) (4:53)
- AOPA Live Segment September 2021: [AOPA Foundation Curriculum hits 300 schools](#) (2:42)
- [High School Students Reach New Heights](#) September 2021 (2:39)
- AOPA Live Segment March 2021: [An Update on AOPA's You Can Fly High School Curriculum](#) (2:41)
- [Curriculum student testimonial](#) (3:07)
- [Teacher testimonial](#) (1:06)
- [High school student scholarship winner testimonial](#) (1:23)

## HIGH SCHOOL AVIATION STEM SYMPOSIUM

- [Register to attend or exhibit](#) at the 2022 FedEx AOPA Foundation High School Aviation STEM Symposium Presented by Boeing in Memphis, TN, November 13-15, 2022.
- All sessions of the 2021 AOPA Foundation High School Virtual Aviation STEM Symposium presented by Boeing are available for free viewing. To sign up for free access, go to the [Registration Page](#).
- 2020 U.S. Air Force AOPA High School Aviation STEM Symposium [highlight reel](#) and [complete broadcast](#).

### DETAILED DESCRIPTION

The AOPA Foundation You Can Fly Initiative High School Aviation STEM Curriculum is a set of six full-year courses in two pathways – pilot and UAS – embedded with rigorous STEM concepts and career preparation taught in the context of aviation. In the 2021-2022 school year, nearly 400 teachers in 322 schools across 44 states are teaching the AOPA Foundation High School Aviation STEM Curriculum to a diverse (40% students of color, 21% female) group of 10,000 students nationwide. The Curriculum challenges students and prepares them for aviation and aerospace-related STEM careers. Some highlights include:

- **The 9th-grade course** introduces aviation and aerospace from historical, scientific, engineering, and market segment contexts. Hands-on projects in each unit engage students in exploring key aerodynamics and physics principles while completing real-world engineering design challenges.
- **The 10th and 11th-grade courses** explore STEM concepts while teaching the concepts embedded in aviation stackable industry credentials, specifically the FAA Private Pilot Knowledge Test or the FAA Remote Pilot Knowledge Test. These courses are not written as ground school courses, and students will need to engage in additional study and follow all FAA procedural steps to take and pass the knowledge tests. However, because of the courses' intensive STEM and experimental nature, the AOPA Foundation Curriculum addresses topics from the FAA Airman Certification Standards in a depth that exceeds traditional ground school. Hands-on experiments and projects engage students in experiencing and understanding the math, science, and engineering concepts needed for success as a professional pilot as aviation-related STEM professionals.
- **The 12th-grade courses** expand students' understanding of aviation to include advanced topics such as instrument flight, multi-engine flight, turbine engines, and high altitude flight. Students learn about and research emerging technologies that are changing the shape of aviation and aerospace and identify the STEM skills that innovation design teams need for successfully taking an idea to market. Students learn the relationship between aerospace innovation funding entities like DARPA and NASA and private sector companies by responding to RFI's. They build aviation business plans to explore opportunities and careers in aviation-related businesses. They also select a topic for, implement, and make a final presentation on a semester-long research project on an aviation or aerospace topic of their choice.
- In addition to STEM content and preparation for the FAA Knowledge Tests, **Career and Technical Education (CTE) pathways** are embedded throughout the Curriculum. Activities include researching and selecting STEM careers, identifying local and regional school-to-work experiences, creating career portfolios (resume, cover letter, letters of recommendation, and application essays), writing responses to RFI's, developing and writing aviation business plans, and planning and executing the semester-long, student-selected Career and Technical Education (CTE) capstone project.
- The AOPA Foundation You Can Fly High School Initiative has earned two accreditation honors from the prestigious independent credentialing and education research organization STEM.org. As a **STEM.org Accredited Educational Experience**, the AOPA Foundation has demonstrated excellence in strategic visioning and implementation of STEM programming. As a **STEM.org Reviewed Educational Media**, the AOPA Foundation High School Aviation STEM Curriculum delivers world-class resources to schools and teachers. For more information, see [this AvWeb news article](#).