



P91 CHASE (Christian Homeschool Aviation STEM Education)
will be teaching the AOPA “You Can Fly” curriculum, accepted by the
state of Oklahoma as an approved STEM Program for high schools in
Oklahoma.

ENROLLMENT OPEN!

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[High School Aviation STEM Curriculum - You Can Fly \(aopa.org\)](https://www.aopa.org/education/high-school-aviation-stem-curriculum-you-can-fly)

The AOPA Foundation’s High School initiative was designed to rebuild the pilot population and the aviation industry from the ground up. By providing high-quality STEM-based aviation education to high school students nationwide, AOPA is opening the door to aviation careers for thousands of teens. The courses are designed to capture the imagination and give students from diverse backgrounds the tools to pursue advanced education and careers in aviation fields.

The AOPA Foundation’s four-year high school aviation STEM program falls along two tracks—pilot and unmanned aircraft systems or drones. The program conforms to math and science standards and, in keeping with career and technical education best practices, is meant to lead to a certification or industry-accepted test, such as the FAA Private Pilot knowledge test or a Part 107 drone pilot certification.

Level 1 (9th Grade and above)

ALL Students start at Level 1, regardless of grade.

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1st Semester – Launching Into Aviation

The ninth-grade course provides the foundation for advanced exploration in flying, aerospace engineering, and unmanned aircraft systems. Students will learn about engineering practices, problem-solving, and the innovations and technological developments that have made today's aviation and aerospace industries possible.

Students will look at the problem-solving practices and innovative leaps that transformed space exploration from the unimaginable to the common in a single generation. Students will also gain a historical perspective, from the earliest flying machines to various modern aircraft.

[Click to Review the Level 1 Semester 1 Outline](#)

2nd Semester – Exploring Aviation and Aerospace

This core aerospace and aviation course provides the foundation for both pathways and gives students a clear understanding of career opportunities in aviation and aerospace and the critical issues affecting the industry.

Students will also begin to drill down into the various sectors of aviation and the elements that make up the aerospace ecosystem. They will discover how advances in aviation created a need for regulation and learn about the promulgation of civil aviation oversight.

Students will explore modern innovations and develop innovative ideas to address the aviation industry's real-world challenges. They will be exposed to various career options in aviation and aerospace and take an in-depth look at available opportunities.

[Click to Review the Level 1 Semester 2 Outline](#)

Level 2 (10th grade and above)

[High School Aviation STEM Curriculum - You Can Fly \(aopa.org\)](#)

1st Semester – Introduction to Flight

In the Introduction to Flight course, students pursuing the Pilot and UAS tracks will look closely at the aircraft they may one day operate. Students will begin with an exploration of the types of aircraft in use today before learning how aircraft are made and how they fly. Students will understand how aircraft are categorized, be able to identify their parts, and learn about aircraft construction techniques and materials. They will gain an in-depth understanding of the forces of flight—lift, weight, thrust, and drag—including how to make key calculations. They will then touch on aircraft design, looking at stability, aircraft controls, and maneuvering flight. The course will focus on career skills related to these topics.

[Click to Review the Level 2 Semester 1 Outline](#)

2nd Semester – Aircraft Systems and Performance

In the Aircraft Systems and Performance course, students in the UAS and Pilot tracks will take an in-depth look at the systems that make crewed and uncrewed aircraft work. Beginning with aircraft powerplants and fuel systems, students will learn about the options available and how they affect aircraft design and performance. They will explore other key aircraft systems, including electrical, pitot-static, and vacuum systems. Throughout the course, they will learn about the flight instruments associated with each system and how to identify and troubleshoot common problems. This unit also covers aircraft flight manuals and required aircraft documents. Finally, students will learn about the factors that affect aircraft performance and how to determine critical operating data for aircraft.

[Click to Review the Level 2 Semester 2 Outline](#)

Level 3 (11th Grade and Above)

[High School Aviation STEM Curriculum - You Can Fly \(aopa.org\)](#)

1st Semester – The Flying Environment

Note: The first-semester curriculum for Level 3 Pilot and UAS pathways is the same. The pathways differ in the second semester.

This course is foundational for both crewed and uncrewed aviation. It will prepare students to take either Federal Aviation Administration tests: the Private Pilot Knowledge Test or the Part 107 Remote Pilot Knowledge Test. Topics include preflight procedures, airspace, radio communications, aviation terminology, regulations, airport operations, aviation safety, weather, cockpit management, and emergency procedures.

[Click to Review the Level 3 Semester 1 Outline](#)

2nd Semester Pilot Pathway – Flight Planning

The Flight Planning course will cover the remaining topics necessary for students to take the Federal Aviation Administration's Private Pilot Knowledge Test. Students will learn about pilot and aircraft qualifications, cross-country flight planning, weight and balance, performance and limitations, human factors, chart use, night operations, navigation systems, and aeronautical decision-making. Students will be provided the opportunity to participate in multiple practice examinations. At the end of this course, a school may

choose to arrange for students to take the Federal Aviation Administration's Private Pilot written exam.

[Click to Review the Level 3 Semester 2 Outline](#)

2nd Semester UAS Pathway – UAS Operations

The UAS Operations course will cover many topics surrounding UAS missions, from mission planning to UAV performance to crew resource management. Students may take the Federal Aviation Administration's Part 107 Remote Pilot Knowledge Test upon completion of this course.

[Click to Review the Level 3 Semester 2 UAS Track Outline](#)

Level 4 (12th Grade)

[High School Aviation STEM Curriculum - You Can Fly \(aopa.org\)](#)

PILOT PATHWAY

1st Semester Pilot Pathway– Preflight Your Career

Students will examine advanced aviation topics and career options after preparing for the Private Pilot Knowledge Test or Part 107 Remote Pilot Test in the previous year. Instrument flight, commercial aviation, and advanced aircraft systems begin the semester. Looking into the future, students will then explore new horizons in the aerospace industry. What might aviation look like five, ten, or twenty years into the future? The focus then turns to business development opportunities in aviation. Finally, students will learn about and conduct different types of research in preparation for their capstone project in the second semester.

[Click to Review the Level 4 Semester 1 Pilot Track Outline](#)

2nd Semester Pilot Pathway– The Capstone Experience

The capstone course is the culmination of the student learning experience. The students will work individually or in small groups to study and report on an aviation topic of their choosing. The goal of this capstone course is to allow students to demonstrate an understanding of a contemporary topic in aviation. The curriculum will include presentations and activities to help guide student research and project development.

[Click to Review the Level 4 Semester 2 Pilot Track Outline](#)

UAS PATHWAY

1st Semester UAS Pathway - A World of UAS

After preparing for the Part 107 Remote Pilot Test the previous year, students can earn a valuable FAA certification and CTE stackable credential to work as commercial drone pilots. This year, they will use that certification—and the knowledge they acquired pursuing it—in real-world scenarios that illustrate how drones are used across various industries today. Students will also learn how drone operations can be used to build or enhance a business and the entrepreneurial skills necessary to get a start-up off the ground. They will also review drone rules within their communities, enabling them to make recommendations to elected officials on optimizing UAS operations in their communities. Finally, students will learn about and conduct different types of research in preparation for their capstone project in the second semester.

[Click to Review the Level 4 Semester 1 UAS Track Outline](#)

2nd Semester UAS Pathway - The Capstone Experience

The capstone course is the culmination of the student learning experience. The students will work as individuals or in small groups to study and report on a UAS topic of their choosing. The goal of this capstone course is to allow students to demonstrate an understanding of a contemporary topic in the drone industry. The curriculum will include presentations and activities to help guide student research and project development.

[Click to Review the Level 4 Semester 2 UAS Track Outline](#)