Aviation STEM Class

2 Semester Course

Recommended for High School 9th-12th

Fees: $40 monthly fee. Cost of books, materials and supplies TBD

Course Description:

1st Semester – Launching Into Aviation

- The course will provide the foundation for advanced exploration in the areas of 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 historical perspective, starting from the earliest flying machines and leading to the wide variety of modern aircraft and the integral role they play in making today's world work.

2nd Semester – Exploring Aviation and Aerospace

- This core aerospace and aviation course provides the foundation for both pathways. It is designed to give students a clear understanding of career opportunities in aviation and aerospace and the critical issues affecting the aviation system.
- Students will also begin to drill down into the various sectors of aviation and the elements that make up the aviation and aerospace ecosystem. They will discover how advances in aviation created a need for regulation and will learn about the promulgation of civil aviation oversight.
- Students will explore modern innovations and develop their own innovative ideas to address real-world challenges facing the aviation industry. They will be exposed to a variety of career options in aviation and aerospace and take an in-depth look at the opportunities available. This course will allow students to begin to define their individual interests.

  The AOPA curriculum information can be found at https://youcanfly.aopa.org/high-school/high-school-curriculum#about .

Instructor Background: This class curriculum is being coordinated by (and likely taught by) Matthew Ranck, P.E., C.M.. Mr. Ranck is an Oklahoma Registered Professional Engineer and works for Delta Airport Consultants in Oklahoma City as a consulting engineer for several General Aviation (GA) airports across Oklahoma and New Mexico. He is a Certified Member (CM) of the American Association of Airport Executives. Mr. Ranck is also a private pilot.